

IND

MAY 1960 35c

Motor Trend

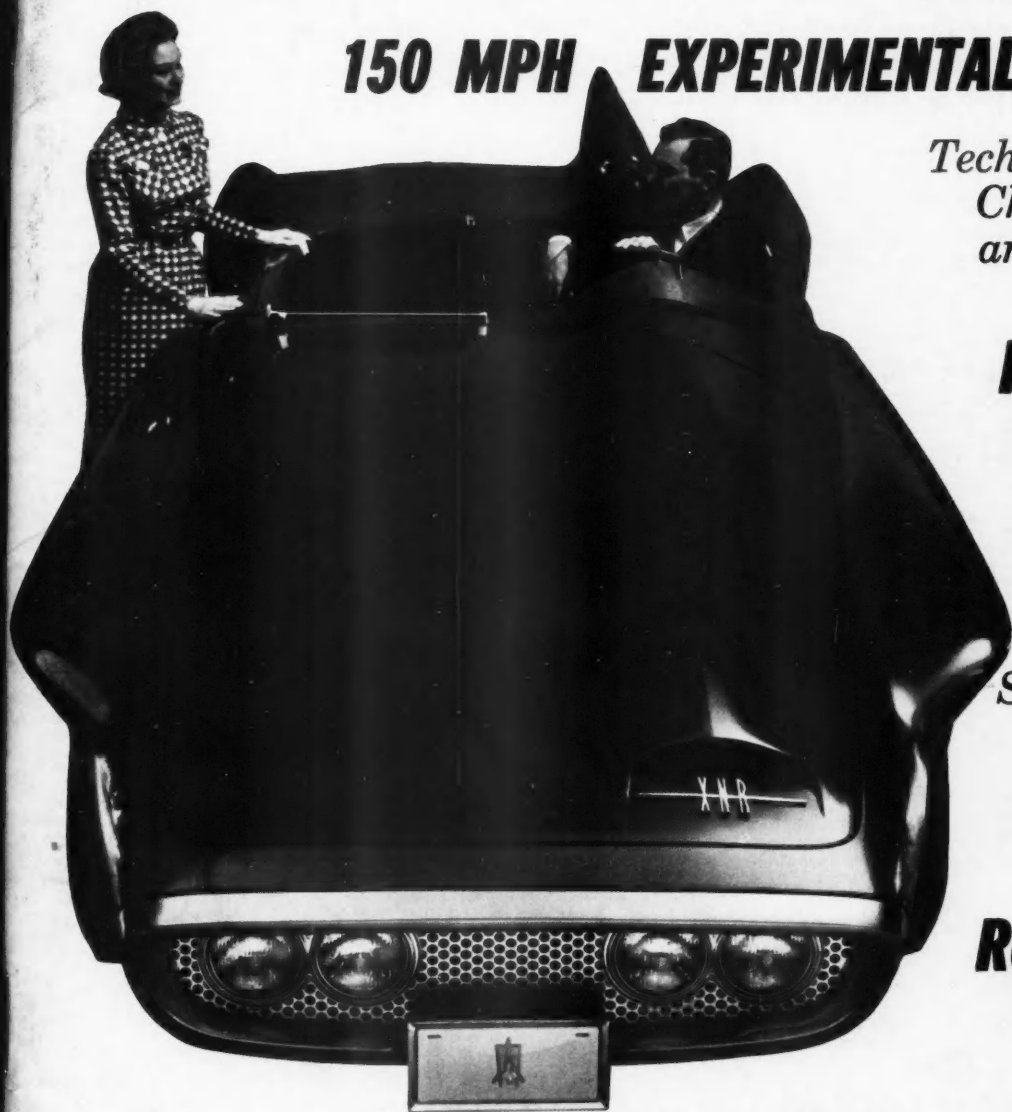
150 MPH EXPERIMENTAL PLYMOUTH!

*Technical analysis of
Chrysler's possible
answer to Corvette*

**IS YOUR CAR
DATE BAIT?**

*Road Test of the
333 HP
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How they go...
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From DuPont comes new protection in MS-3. Now Flying A guards your engine constantly. It's the only gasoline specially made for today's start-and-stop driving.

Heavy traffic driving is the cause of "power clog." Stopping, starting, idling and shifting causes harmful deposits to collect inside your engine. Engine parts become clogged—full power cannot get through.

Flying A's new 100+ helps prevent "power clog." Flying A burns clean, keeps your engine cleaner. Power comes through full and strong. Flying A is the only gasoline that gives extra protection with new MS-3 by DuPont. For example: MS-3 helps prevent

the formation of harmful lacquers and gums inside your carburetor and fuel system. It guards your engine day and night—even in the thickest traffic.

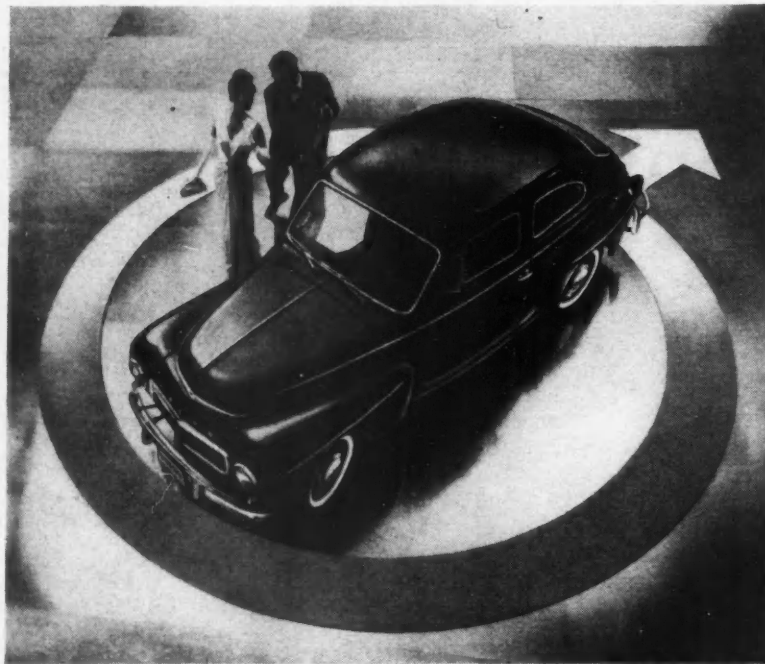
More power on the open highway. Flying A provides over 100-octane for greater power. Because Flying A with new MS-3 protects an engine from deposits during in-traffic driving, more power is preserved for peak performance on the open highway.

New MS-3 by DuPont—yours in Flying A regular, too!



TIDEWATER OIL COMPANY
MOTOR TREND/MAY 1960 3

VOLVO economy does not mean compromise



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**Symbol of superb Swedish engineering
and craftsmanship**

AUTOMOBILES • TRUCKS • MARINE AND INDUSTRIAL ENGINES

COVER: Corvettes, beware! This radical creation, the XNR, still in experimental stage, is full of new ideas which Chrysler hopes to incorporate into its future sportscar. Below it is new Volvo P-1800—one of models featured in our special Imported Car Section. Photo by Sten E. Eliasson.



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Motor Trend

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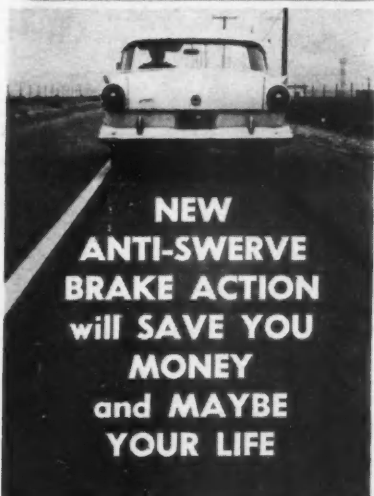
The man who didn't WYNN!

It's going to take more than a screwdriver to get this car running again... a fairly new car, too. All this trouble—and the expense—could have been avoided with Wynn's Friction Proofing. When you add Wynn's Friction Proofing to your gas and oil *your car will run much better, much longer.* Be a Wynner and find out for yourself.



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Name _____

Address _____

City _____ State _____

Letters | FROM OUR READERS

OVERSTATEMENT VS. UNDERSTATEMENT

Dear Sir:

Two years ago I switched from a long Detroit car to a Karmann-Ghia. Since then I have enjoyed two years of the most



trouble-free, economical driving I have ever had. I cover about 26,000 miles a year in pleasure driving and have traveled all through the Western and Northwestern states under every conceivable road condition. Through this period I have gotten 40 mpg consistently at average highway speeds.

One reason I gave the imports a try was because of the amount of misleading advertising about Detroit cars. This includes mileage, horsepower and a multitude of other claims made by various makers.

As a general rule I have found that the majority of imports underestimate what their products will do, so that the purchaser generally has an enjoyable surprise in store if he is willing to operate within the limits set by the manufacturer.

Frank R. Wilton

Anaconda, Mont.

IMAGINE MY SURPRISE!

Dear Sir:

I thought you might be interested in how I transformed my docile Golden Commando Sports Fury into a roaring, snorting machine by switching to an economy rear axle!

The car was originally equipped with a 3.36 axle, and I converted to a 2.93 in the



interest of better economy. I felt my engine was just about big enough to take the strain of a higher ratio rear end, and besides it was time to give competitive makes a chance at the stop light.

After the operation I was surprised to find that my TorqueFlite transmission now shifted into second at 60 mph and high at 90 mph, due, of course, to the relation between engine rpm and transmission shift points . . . I think!

I don't know if my car is unique, but I've never heard of another example of this accidental route to performance. I would appreciate comments, advice, challenges, duels, etc. . . .

Jim Ptoscinski

Watertown, Wis.

THERE'S A GOOD REASON

Dear Sir:

We would like to know why there is such a big difference between your gas mileage figures on the Corvair, Falcon and Valiant and those that were obtained in the Economy Trial in Florida.

Howard T. Anderson

Lincoln, Neb.

Cars competing in economy runs are op-

erated under entirely different conditions from those of everyday driving. The automobiles are prepared specially for the utmost economy, and the drivers are all expert featherfoots who can squeeze the most out of every drop of gas. No car owner should expect to approach in everyday driving the mileage achieved in economy runs.—Editor.

MODERN VS. VICTORIAN

Dear Sir:

Many people think that cars with flaring fins and other flowing lines are not the modern designs they deserve.

Personally, I can't imagine a Simca or Volkswagen in the driveway of a Frank Lloyd Wright creation! It would be like placing a Danish modern chair in a Victorian parlor, or vice-versa.

Charles Chaney

Greenville, Tex.

DREAM COME TRUE

Dear Sir:

In one of your issues, you stated that the Auburn-Cord-Duesenberg Club was one of the finest in the country. I joined the club and wholeheartedly agree.

Seeing the many, many parts for sale (and parts wanted) in their monthly newsletter, I bought a '36 Cord sedan body and



chassis for \$100. In less than four months from the time I started from scratch, I had a complete Cord Westchester sedan, plus many spare Cord parts, with less than \$300 invested.

Last year I made the trip to the annual A-C-D Club meet at Auburn, Ind. For a Classic fan it's like a dream come true to see the many, many cars assembled together from all over the United States.

Pat Runyan

Cincinnati, Ohio

MODERNIZED CLASSICS

Dear Sirs:

I am completely sold on Detroit's big, shiny, solid mass of steel called an automobile. I would like to suggest that the manufacturers take under consideration the possibility of producing again the great automobiles of the past. By that, I mean producing in very limited numbers such great cars as the Cord, Duesenberg, Packard and Cadillac—to mention but a few—of the late 1920s and all of the '30s.

To these great cars Detroit could add some of the newer inventions—power steering, better brakes, etc. When completed, I feel these products would be better in almost every respect than the present automobile.

P. A. Ross

Kailua, Hawaii

WHY DOESN'T GENERAL MOTORS?

Editor:

Why doesn't General Motors rust-proof (at least the lower portions) their otherwise
continued on page 8

"I 'built' my Chevy to take a hint— automatically!"

"You'd be surprised what two big brothers can teach a girl about cars—especially when they're automobile engineers. So when I went down to buy my new car, I knew what I wanted: an absolutely automatic car, one that would do everything for me short of driving itself.

"Thanks to Chevy's list of options (longest in the business, my brothers

say), I've got that dream car parked in front of my apartment house.

"Naturally, it's an Impala Sport Coupe. (I happen to be a fashion model, so style is extra important to me.) I wanted V8 smoothness with the economy of a 6—and Chevy's economy V8 is just the thing. And I let Turboglide* do my shifting for me. Power steering* and power brakes*, of course, and then Chevy's six-way power seat*. Power windows* are a touch of luxury I wouldn't miss for the world. I've even pampered myself with a push-button trunk opener*—I don't even have to get out of the car! (Those Chevrolet people think of *everything*.)

"Cars just don't come much more automatic than mine. And even

though my brothers are mad about sports cars, I notice they get a real charge out of driving my four-wheeled robot."

This is just one kind of Chevrolet. There are as many other kinds as there are people: heavy-duty work-horse wagons, outright thrift cars, cars that move in utter splendor. The point is this—you can virtually custom-build your Chevrolet to suit yourself. We'd suggest a trip to your nearby Chevrolet dealer's soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

**Optional at extra cost.*



Got a good idea of what you're after in a car? Chevy lets you choose from seven engines, five transmissions, regular or Positraction rear axles, special cams, solid or hydraulic valve lifters . . . the widest choice of options in the industry. And that means you can "build" your personal car to fit you like a glove.



A LITTLE GOES A LONG WAY

Now . . . a product so powerful a few ounces keeps your engine "new car" clean! It's MICRO-LUBE, the super lubricant! Only MICRO-LUBE contains *Cyclohexanone*, most exciting discovery in the automotive field in 50 years! One pint in your crankcase every 1000 miles dissolves harmful deposits, eliminates varnish, reduces friction, protects your engine against wear! One 4 oz. can in each tank of gasoline cleans fuel lines, gives you quicker, smoother starts! And MICRO-LUBE, unlike many other acid-producing additives, has no damaging chemicals — contains only high-grade pure petroleum and miracle *Cyclohexanone*! MICRO-LUBE is guaranteed safe for any internal combustion engine!*

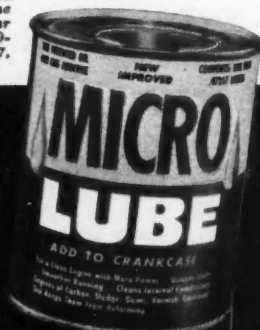
Sample offer! One pint and one 4 oz. can of Micro-Lube for \$2 ppd. Send check or money order with your name and address, name and address of your garage or service station to: MICRO-LUBE, 8505 Directors Row, Dallas 7, Texas.

MICRO-LUBE

IF IT HAS AN ENGINE . . .

IT NEEDS MICRO-LUBE!

*EXCEPT FOR SPECIAL ENGINES USING TITANIUM PISTONS.



Letters *continued*

superbly constructed Fisher bodies? American Motors, some foreign manufacturers and more recently, the Chrysler Corp. are doing this, which acts as a deterrent to the calcium products used on roads in winter. Having owned GM cars for many years, my one complaint is lower-body deterioration.

My present Vauxhall (made by GM in England) is partially rust-proofed during manufacture, which makes it a more desirable car to own, to my point of view, than the Corvair.

I believe that rust-proofing would further promote the sale of the Corvair and other GM products.

R. M. Bacon

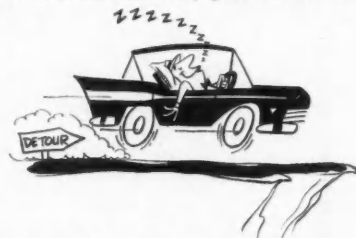
Cohoes, N. Y.

EENIE, MEENIE, MINIE . . .

Dear Sirs:

I have narrowed my final buying selection to three cars—two domestic and one foreign. They are the French Peugeot, Rambler and Valiant. (The Lark is out because it doesn't have a unitized body.)

The Rambler and Peugeot have two big pluses to begin with—individual reclining seats. I can make very good use of these



on practically every long trip I take. Why other American cars haven't latched on to the idea I can't figure out.

The Peugeot has another special plus not found in any American cars—a sunroof. It also has a lot of features as standard equipment which our autos charge extra for: windshield washer, front and rear armrests, electric wipers, outside mirror, white sidewalls, carpeting.

Joseph G. Steiner, Jr.

Dover, Ohio

MONSTROUS HYBRID

Dear Sir:

Apparently the Chevy designers have caught on to something many of us have known for a long time—the '58 Impala, which they themselves produced, was the most beautiful car ever made, anywhere, bar none.

So what have they done? They've taken a '59 Chevy, added a lot of '58 Impala styling, and called it a '60. It's a monstrousity!

Paul Becker

Linden, N.J.

STUDY IN STUDE

Gentlemen:

I have always admired the classic design of the 1953 Studebaker coupes, but disliked the long wheelbase. It seems to me that the designers should be able to combine the styling of the Stude and the Lark, add some parts from the Hawk, and come up with an Italian GT look.

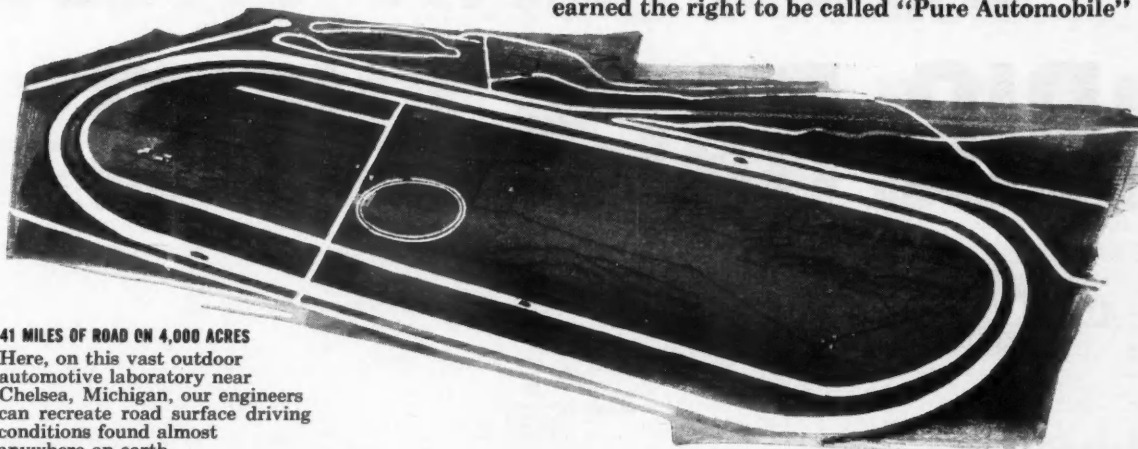
Bob Cook

Norman, Okla.

It seems that others have had the same idea. To see what one man did along this line, turn to "Study in Stude," page 35.—Editor.

Around the world in 41 miles

The story of the Chrysler Engineering Proving Grounds—where our cars earned the right to be called "Pure Automobile"



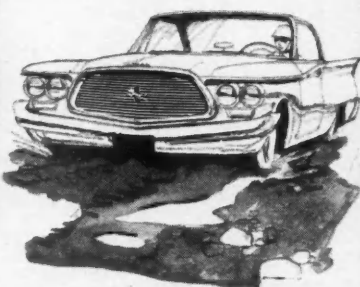
41 MILES OF ROAD ON 4,000 ACRES

Here, on this vast outdoor automotive laboratory near Chelsea, Michigan, our engineers can recreate road surface driving conditions found almost anywhere on earth.



4.7-MILE HIGH-SPEED OVAL

Probably the most precisely engineered track of its kind. On it, test drivers helped prove the 1960 cars could withstand four times more punishment than previous models.



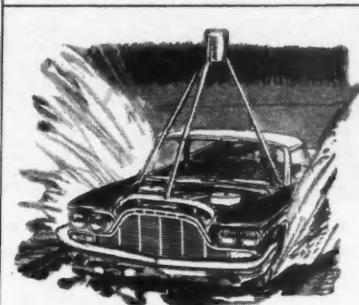
THE WORLD'S WORST PLACE TO DRIVE

That's the teeth-jarring Endurance Road, where we tested cars around the clock. Proved: new Unibody has twice the torsional strength, 40% more beam strength than earlier models.



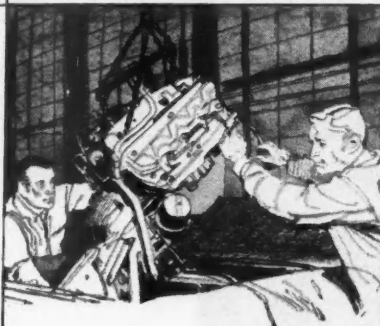
TWIN OF STEEPEST PAVED PUBLIC ROAD

This towering hill duplicates the 32% grade in San Francisco's Arguella Boulevard. Severe hill-climbing tests helped develop our powerful new Economy Slant 6-cylinder engine.



SLAM-BANG DUNKING FOR 340 FEET

Chances are you'll never have to drive through a "water hazard" like this 340-foot trough. Our splash-proof ignition system was developed in tests like this—safer brakes, too.



ENGINEERING WORKSHOP, TWO BLOCKS LONG

Here, four hundred car experts equip, study, and tear apart test cars again and again. Results for 1960: Pure Automobile—The Quick, the Strong, and the Quiet.

The Quick, the Strong,
and the Quiet from

CHRYSLER CORPORATION

VALIANT • PLYMOUTH • DODGE DART • DODGE
DE SOTO • CHRYSLER • IMPERIAL

GOODYEAR TIRES BIG RACE EVENT—



Split-second action by Junior Johnson's pit crew saved precious seconds. Getting the car serviced and out of the pit was a big factor in Johnson's victory.

The starting field of 68 late-model stock cars roars past the grandstands. A crowd of 50,000 saw the race.

GOOD

MORE PEOPLE RIDE ON

Watch the award-winning "Goodyear Theater" on TV every other Monday evening.

S SWEEP ANOTHER THE DAYTONA 500!

**Goodyear tires were on the winning car,
on 5 of the first 6, 8 of the top 10!**



Junior Johnson, the happy winner, is congratulated by Goodyear's President, Mr. Russell DeYoung.

IN THE first big stock car race of the year, the Daytona 500, Goodyear tires picked up right where they left off in 1959—when Goodyear's long string of victories included wins in both the Rebel 300 and the Southern 500 at Darlington.

Goodyear's latest victory was the 500 mile, late model Grand National at Daytona Beach, the climax race of the NASCAR-sponsored Daytona Speed Weeks. Goodyear tires were not only on the winning car, but also on 5 of the

first 6 cars and 8 of the top 10!

At twice the usual turnpike limits—speeds up to 154 mph!—these racing tires again showed why all Goodyear Turnpike-Proved tires are your best buy, no matter how you drive.

Winning driver Junior Johnson, a big winner with Goodyear for the last two years, pointed right to the tires when asked about his victory. "Man, I was mighty glad to be on those Goodyear tires. When you're running at 150 out there, you've got to have the rubber!"

WHAT THIS MEANS TO YOU!

Proving that Goodyear tires will beat all competition is important. But even more important is what we learn from these racing events.

By carefully examining tires after each race—tires run on the same types of road surfaces you drive on, but brutally punished by the terrific speeds—Goodyear engineers can make discoveries that lead to improvements in tires for ordinary use.

In fact, it's partly because of such discoveries that Goodyear now gives you the three big tire advances of 1960: 1—Up to 25% more safe mileage than before. 2—A whisper-quiet, cushion-soft ride. 3—New 3-way sureness on the road . . . quicker starts, safer stops, better car control on turns.

Next time you're buying tires, see your Goodyear Dealer. The extra value of Turnpike-Proved tires by Goodyear won't cost you one cent more. Goodyear, Akron 16, Ohio.



GOODYEAR TIRES THAN ON ANY OTHER KIND!

BLUE STREAK SPECIAL

Blue Streak, Super-Cushion T.M.'s, The Goodyear Tire & Rubber Company, Akron, Ohio.

MOTOR TREND/MAY 1960 11

VOLKSWAGEN HAS LONG BEEN SUCCESSFUL with a type of car that until recently it had pretty much to itself—the luxurious, economical, two-place, sport coupe. Then along came Renault's Caravelle, not to mention BMW's 700, NSU's Sport Prinz and Lloyd's Arabella—all of which are recent additions to the varicous bread-and-butter lines. And now comes the Triumph Herald sport coupe, the car MT's European Editor Gordon Wilkins reported on in July, 1959 after a secret pre-announcement run in Ireland.

The Herald coupe that Wilkins drove was a "prototype," which is never the same as an actual production car, particularly when it doesn't reflect the needs and wants of the American market. The opportunity to drive an "Americanized" version of the Herald came up with an invitation to attend the first U.S. press showing of the car in Palm Springs, Calif. Since the same thing about a prototype applied to the first Renault Caravelle I had driven in France (Aug. '59 MT) and I had said at that time

platform chassis to which the body is attached. All three have the advantage of four-wheel independent suspension, though driving characteristics are different in the Herald, with its front-engine location, as opposed to the other two cars with their engines in the rear. The two rear-engine cars might have slightly better traction in snow and slush, but the oversteering tendencies of any rear-engine car takes some getting used to. The "break-away" that comes after reaching the limit of adhesion is about the same in all cars, since each uses rear swing axles. With the confidence that comes with experience, the Herald can be taken into corners harder and harder.

As for the ride, the Herald has a slight edge, but there is really little to choose among the three. Once you've made up your mind to have a small car, you accept the fact that the ride is going to be less billowy than in a stretched-out limousine. Then it becomes a matter of degree. Personally I can't complain too much about the ride in any of the three; I'd rate them all



Driving Around WITH THE EDITOR

DEMONSTRATING THE TIGHT MANEUVERABILITY OF THE TRIUMPH HERALD, YOUR EDITOR SPINS THE CAR AROUND IN A 25-FOOT CIRCLE.

that it spelt trouble for Volkswagen's Karmann-Ghia, what better than to drive the two of these down to Palm Springs to see how the three of them fill the bill for those who like such cars? So, I arranged with Sam Weill of Competition Motors and Len Weissman of John Green Corp. for the VW and Renault, respectively. Then, with photog Bob D'Olivo, we were on our way.

Before I analyze the three cars, let me make one point clear: this is *not* intended to be a strict comparison of the three cars, but is intended to give you my reactions to three cars that are similar in basic concept—at least in outside appearances—and that sell in the same price bracket. This table shows how close they are in these respects:

CAR	WHEELBASE (Inches)	ENGINE	WEIGHT	SEATING	BODY STYLES AND PRICES
Triumph Herald	91.5	50.5-hp, 4-cyl. in-line	1652-1736	2/4	Convertible—\$2229, Coupe—\$2149
Renault Caravelle	89.0	40-hp, 4-cyl. in-line	1645-1720	2/4	Convertible—\$2395, (with hardtop, \$2525); Coupe—\$2445
Karmann-Ghia VW	94.5	38-hp, flat 4-cyl.	1665-1740	2/4	Convertible—\$2795, Coupe—\$2535

You can see from these basic specs that there's really little to choose from as far as size, available models and power are concerned. The biggest differences are in personal preference for one type of design or the other. Starting with the body/chassis, the Herald has a backbone chassis with outriggers to support the body units, the Karmann-Ghia and Caravelle both have a

as being quite comfortable riding cars for their small size.

The controversy rages on in engine design: opposed vs. in-line, aircooled vs. watercooled. Because the VW is the oldest of the three, it is also the one which has the most on-the-road test mileage to its credit. It's a durable engine, very seldom needs an overhaul and seems to love operating at peak rpm. In the past few years, the Dauphine's 845cc overhead-valve engine has had a good chance to shake out any bugs. It's too early to tell what service experience is going to be with the Herald's 948cc four, but since it's an engine that's been used successfully in other cars for hundreds of thousands of miles, there's little likelihood that much will go wrong. As with the Caravelle (with its higher compression and higher lift cam to raise hp from 30 to 40), the Herald has a raised compression and uses two carbs to boost power. These changes are certainly not enough to appreciably reduce service life.

Getting in and out of a sport coupe is something you have to accept—or not. Better try it a number of times before you buy. You'll probably find, as I do, that you're much more comfortable once you're inside than you are either squirming in or untangling yourself from behind the wheel. Just remember that you can always relocate *any* seat, once you've bought the car.

Special bodies, built on a low-production scale, and luxurious interiors are mainly responsible for upping the prices on sport coupes of the type here—particularly the Ghia and Caravelle—so naturally you'd expect them to be pretty fancy. The VW's



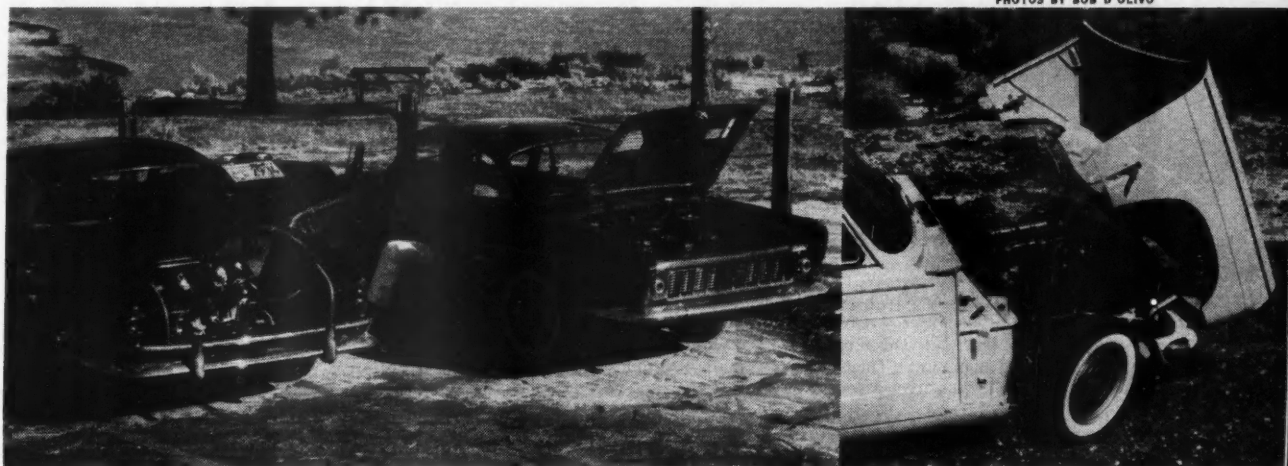
Both driver and passenger have individually adjustable seats. Steering column is also adjustable. Gear lever is located conveniently.

and Caravelle's seats are padded in a semi-bucket shape, are upholstered in plastic leather and have seatbacks that recline. The Herald's seats are flatter in contour, and have a desirable feature in that rubber blocks, mounted on the runners, can be adjusted to offer four basic variations in height and seatback rake. The Herald also has an adjustable steering column.

The VW and Renault have an "emergency" jump seat that can be left folded with the seatback down for luggage or groceries, though it does serve as a good seat for tiny tots. The Herald's rear seat is similar, but provides more headroom, knee-room and legroom. The Ghia and Caravelle have a clear middle-area floor space, since neither has a transmission or driveline hump, though the Herald has plenty of footroom and legroom.

Each of the cars has the basic instrumentation of speedometer and fuel gauge; the Caravelle and Herald also have a water temp gauge. Though each car uses a four-speed gearbox, no manufacturer has felt the need for a tachometer. Shifting

PHOTOS BY BOB D'OLIVO



Three different designs: Though the Karmann-Ghia (left) and Renault Caravelle (center) both have their engines in the rear, one has an

aircooled, flat four, the other a watercooled, in-line four. The Herald's in-line four sits up front; hood and fenders lift in one unit.



The Herald comes in three styles: convertible (shown here), the hardtop coupe (opposite page), and in a lesser-powered sedan version.

gears is easy in the Herald and Ghia because the lever is at a comfortable reach and the gears can be easily found; the same can't be said of the Caravelle, which has too long a reach to first and third. Foot controls on these three are small and you may find yourself occasionally snagging a toe or a sole. All three cars have their parking brake between the front seats.

As for performance, what can you expect from engines about one-fifth the size of a standard Chevy or Ford V8? If these cars could just stay out of the way of the gargantuan, it would be good enough. The fact is that their "off-the-mark" ability compares favorably to some of the new compacts and they can each cruise 55 to 65 with little strain. Pick your spots to pass and shift down before you lose your speed going up a grade and you won't be too unhappy.

So you don't get hot performance in cars like this—what do you get? Maneuverability, for one. They'll whip in and out of traffic like you've got on a pair of roller skates. Parking is a breeze, not only because of the size, but because of turning radius, too. Fuel economy is a beautiful story to tell; any time you get over 30 miles to a gallon of regular gas, you have something to shout about.

On the run to Palm Springs—through city traffic, congested freeways, open highway and mountain passes over 6000 feet—the Ghia averaged 31.1-mpg and the Caravelle got 36.9. And you can get around 35 with the VW and over 40 with the

continued on page 15



NEW BRITISH TRIUMPH: The car that almost never needs greasing!

It's the TRIUMPH/Herald—3 full engineering years ahead of all other economy cars—domestic or imported. Researched and tested the world over to meet world-wide driving needs. Worth seeing and driving before you buy any car.

Only 4 parts of the TRIUMPH/Herald ever need grease: the trunions and water pump once every 6,000 miles; the steering box and wheel bearings once every 12,000 miles. (That's about once a year, if you drive as much as most people.)

This is just one of the TRIUMPH/Herald's many innovations. It is a result of a TRIUMPH factory team's two year survey in 87 countries of world-wide driving needs...for the present and future. Here are some more startling advances that put the TRIUMPH/Herald 3 full engineering years ahead...

4-wheel independent suspension plus a torsion bar

Whatever the road surface, the TRIUMPH/Herald stays absolutely level, thanks to its 4-wheel independent suspension stabilized by a torsion bar. It is all but impossible to make the TRIUMPH pitch, roll or turn over.

The TRIUMPH is incredibly nimble. It turns around in only 25 feet...parks with only 18 inches leeway. Another sure sign of TRIUMPH's advanced engineering is its quiet ride—despite its surprising power. The Sedan cruises all day at 65...goes over 70 with ease. The Sports Coupe and Convertible are the only economy cars with dual carburetion and they go over 80 m.p.h.... give up to 40 m.p.g.

Lower British insurance rates

The TRIUMPH/Herald sets a new standard for safety. It has 93% visibility... over-sized brakes... a steering column that telescopes in case of emergency...

solid Sheffield steel body...three layers of bumper up front and many other built-in safety features. As soon as the TRIUMPH/Herald was introduced, a major British insurance firm lowered its rates 12½% below the standard charge.

New low in repair costs

Unlike cars built as one unwieldy mass, the new TRIUMPH/Herald can be repaired quickly and cheaply. For the TRIUMPH people have built the body a new and better way—with 7 major sections. Now a damaged section can be removed, restored and replaced in no time flat.

While it is rarely necessary, the TRIUMPH/Herald is remarkably easy to service. 700 dealers in all 50 states carry a complete inventory of parts and give service.

Dramatically stylish—Unusually comfortable

The TRIUMPH/Herald is literally "streamlined"—with only 10 curves in the entire design. It was styled by the young Italian genius, Michelotti.

Driver comfort in the new TRIUMPH is unequalled among economy cars. The

seats, foam rubber down to the webbing, adjust to 72 different positions. Even the steering wheel is adjustable.

The TRIUMPH/Herald is lavish with space...more hip room than in most economy cars...more head room than in the largest American car. All three models have 13 cubic feet of clear trunk area—uncluttered by a spare tire. The luggage capacity of the Sedan is more than doubled by simply folding down the rear seat.

\$300 saving included in the list price

Each TRIUMPH/Herald costs several hundred dollars less than the average American car. Yet the list price includes the heater-defroster, molded "wall-to-wall" carpeting, foam rubber seats, washable vinyl upholstery, windshield washers, directional signals, twin sun visors, folding rear seat (Sedan)... everything but a radio and white wall tires. All these items, a \$300 value, are extras on other cars. But they are standard equipment on the TRIUMPH/Herald because they are considered "musts" for safe, comfortable driving.

How to get a demonstration

Phone your nearest TRIUMPH dealer. He'll arrange a test drive right from your driveway—with no obligation, of course. Discover for yourself why the TRIUMPH/Herald is 3 full engineering years ahead of all other economy cars.

Sports Coupe only \$2149*



Convertible only \$2229*



TRIUMPH

HERALD

Sedan only \$1998*



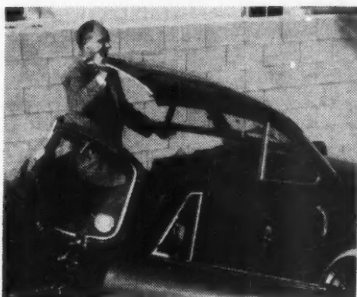
*At U.S. Ports of Entry, plus state and/or local taxes. Slightly higher in West. White wall tires extra. Standard-Triumph Motor Co., Inc., Dept. DS-50, 1745 B'way, N.Y. 19, N.Y.

Driving Around

continued from page 13

Renault—if you're not always booting them. Though we weren't able to take the Herald over the same course, it should easily give mileage in the same bracket.

If that's not enough, you have a "personal" and distinctive-appearing car in any one of the three. It's a good feeling to drive around in three cars and like



Renault's Caravelle has a removable hard top that fits over the soft top.

them all. What if I had to select one of the three? I'd take the engine and running gear of the Herald, the body of the Caravelle and the interior of the Karman-Ghia.

DURING THE PAST MONTH we were on the giving and receiving ends both of a couple of awards: one we presented to Ed Cole, V.P. and General Manager of Chevrolet; the other we received personally.

You read about the first one—the fifth annual MOTOR TREND Award to Corvair ("Car of the Year") for engineering progress. From what we've heard, seen and can conjecture about next year's crop of cars from Detroit, we're going to have an even tougher job deciding who will get the 1961 MT Award.

An old friend, Al Slonaker, honored your editor—along with our publisher R. E. Petersen, *Hot Rod Magazine* Editor Wally Parks, and six others—with first memberships in the newly-created National Roadster Hall of Fame. All nine members were elected because of their "pioneering efforts in the field of creative car building."

Others so honored were: Joe Bailon and George Barris, custom car builders; Officer Ezra Ehrhardt, California Highway patrolman who worked with hot rodders; Romeo Palamides and Gordon Vann, car builders; and (posthumously) Harold Casaurang, one of the first pioneers in drag racing.

Al Slonaker

COMPACT ECONOMY

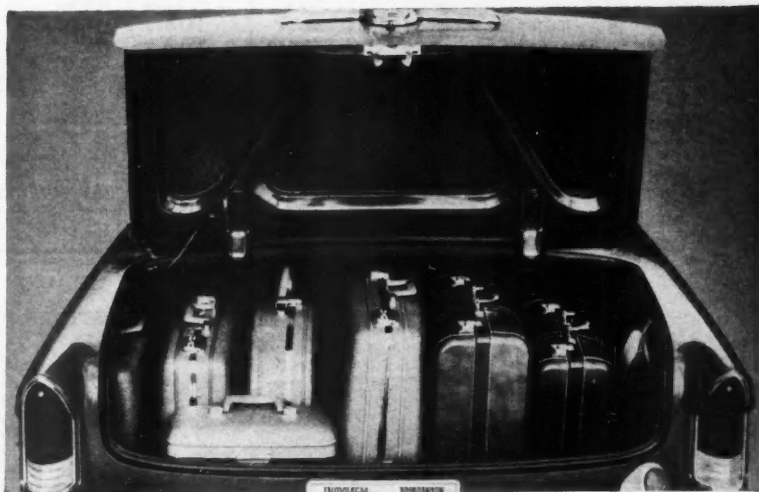
You can get up to 30 miles to the gallon of regular gas with Opel. And this is no claim; it's a fact, proven thousands of times over by ordinary Opel owners. Speaking of economy, Opel replacement parts *really do* cost a lot less than those of conventional cars . . . an average of 35%. Opel trade-in value is high, too!



OPEL REKORD TWO-DOOR SEDAN

GERMAN PRECISION

Some compacts give you economy, some give you quality. Opel gives you both! Opel's careful workmanship stems from a policy of selling as many cars as it can build with precision—not building as many cars as it can sell. You'll notice the difference right away in the fit of the doors and richness of the upholstery.



OPEL REKORD TWO-DOOR SEDAN

\$1987⁵⁰* EQUIPPED

The \$1987.50* P.O.E. New York MANUFACTURER'S SUGGESTED RETAIL PRICE for the 2-door Rekord sedan includes heater-defroster, direction signals, clock, automatic trunk light, 2-speed electric windshield wipers, cigarette lighter and ash trays, front arm rests and dual sun visors. You don't have to add hundreds of dollars worth of accessories to Opel to get it into driving shape.

* (Including delivery, handling, Fed. excise taxes.) Transportation charges, state and local taxes, accessories and optional equipment including whitewall tires additional.

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NEWS AND VIEWS

MAYBE THE LATEST Daytona didoes are at the bottom of it, but there is increasing evidence that car makers are chafing at the self-imposed bit that bars them from open participation in automotive competitive events.

This all started a few years back when critics—mostly political viewers with alarm who are constantly on the alert for cause with which to publicly connect their names—raised quite a hue and cry that the industry's advertising playing up horsepower, performance and prowess of its products in "stock car" events was inciting owners to drive rapidly and recklessly on the highway.

The industry entered into a voluntary pact prohibiting participation in competitive events and sharply curtailing its ability to say anything nice about its products from a performance standpoint. The pact resulted more from publicized pressure from certain politicians than from any proved existence of present peril on the highway.

Net result of this agreement has been an increasing trend toward subterfuge, with factories making available special racing kits to dealers or individuals who are not restrained by it and who wish to enter cars in such events.

There is little question that during the past 10 years racing has done much to improve the breed of our cars. Racing revealed weaknesses in wheels, and wheels have been strengthened. Mandatory use of roll bars to protect drivers in roll-overs indicated that standard tops alone were

not enough and they have since been strengthened. Racing revealed an inadequacy of brakes and these have been improved.

Racing does bring out defects in design and construction which can be found in

SALES BOX SCORE

When the final count on '59 car sales was tallied, several significant observations could be made: 1) The 1,371,986-unit increase over '58 was shared in proportionately larger measure by the smaller manufacturers. 2) The portion of the total market taken by compact and small cars (including domestic and foreign) rose over the previous year from 12.33 per cent to 20.12 per cent. 3) Despite the strikes, '59 was the third best sales year in history (after 1955 and 1950).

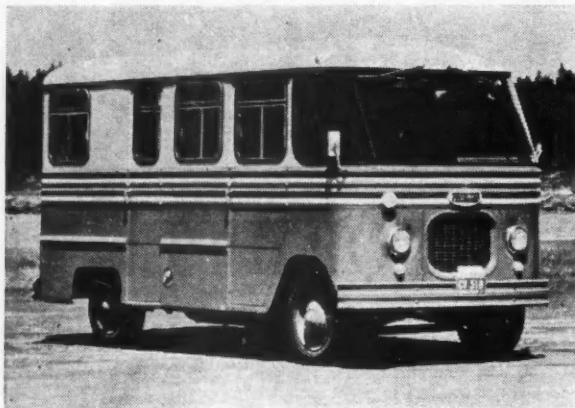
Place	Car	'59 Sales	'58 Sales	'58 Place
1	Ford	1,468,451	1,028,893	2
2	Chevrolet	1,416,076	1,234,414	1
3	Plymouth	388,772	391,104	3
4	Pontiac	381,827	229,831	6
5	Rambler	362,874	186,373	7
6	Oldsmobile	360,008	306,566	4
7	Buick	245,508	263,981	5
8	Dodge	167,040	135,538	9
9	Mercury	157,830	136,295	8
10	Cadillac	135,113	122,651	10
11	Studebaker	133,080	47,798	13
12	Chrysler	64,269	58,573	11
13	DeSoto	42,399	47,894	12
14	Edsel	40,732	38,601	14
15	Lincoln	28,803	26,605	15
16	Imperial	18,484	14,823	16
	Misc.	615,234	384,574	
	(Includes 609,539 imported cars)			
	Total—all makes	6,026,500	4,654,514	

no other way. As one proponent of racing once said: "In a race the unexpected happens at a time when the car is being driven near the peak of its capability. The driver must take evasive or corrective action and the car must respond. We cannot duplicate these situations on proving grounds since we cannot plan the unexpected."

Despite the anti-racing pact, entered into by the industry, there was strong evidence at Daytona that many of the teams enjoyed considerably more factory support than mere blessing. One well known mechanic, whose ability to get more "go" from a car is legendary, was quoted by "Doc" Greene, sports editor of the *Detroit News*, as saying he had been told he could change anything he wanted to so long as he didn't change the roof.

The automotive engineering fraternity is openly opposed to the racing restrictions on the grounds that racing helps them to learn more about their cars. Sales and advertising folks as well would like to see the rule rescinded. No company admits interest in its car entered in race events, but all will look pointedly at other entries.

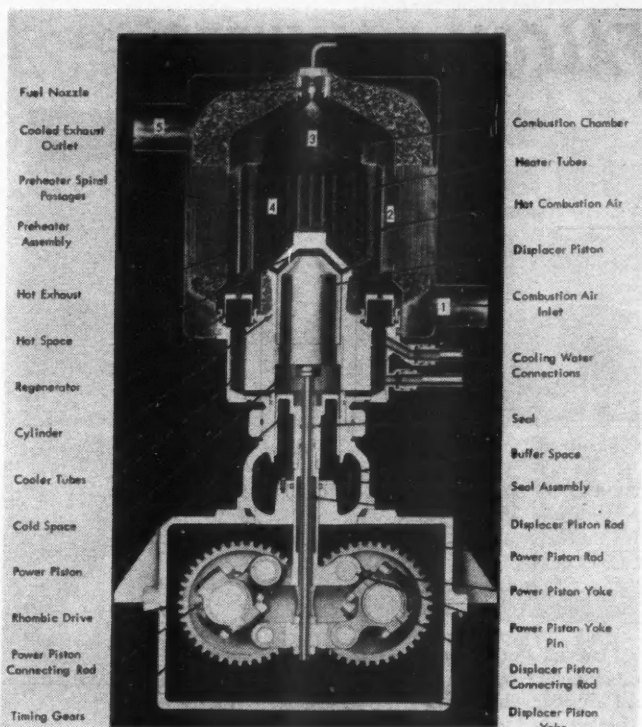
Best answer we could suggest would be to establish an "Experimental Car" category and amend the industry rule to permit makers to enter cars in that class. That present entries are not stock is obvious. Victories won by cars openly labeled "experimental" could not be exploited as was—and still is—the case, where specially equipped jobs are entered as "stock" models.



A combination car/trailer, the Travelcar (made in Stamford, Conn.) seats six, sleeps four, has a stove, refrigerator, and running water. Chassis is Chevy or Ford forward-control type, with the driver sitting beside the engine.



Edward N. Cole (right), Chevrolet general manager, accepts MT's annual award from editor Walt Woron for "most significant advancement—Corvair's air-cooled engine, trans-axle, all-independent suspension."



Thermal engine pre-combusts fuel in one chamber and gets power by compressing cool air and expanding heated air. Products of combustion never enter power cylinder.

GM's New Thermal Engine

GENERAL MOTORS RESEARCHERS are working on new ideas for a thermal or heat engine, where power is supplied by heating and cooling the air within a cylinder. As the air is compressed and heated it expands, providing the operating force. The principle is not new, but metals, fuels and know-how have improved to a point where further research might be profitable.

In the GM experimental engine the heat for the air in the cylinder is provided by external combustion so no fuel is burned within the power cylinder itself, and there are no exhaust or intake valves in the power cylinder. As shown in the accompanying drawing, the fuel is burned in a combustion chamber above the power cylinder. There are two pistons. One, a loosely fitted displacer piston without rings, is used to move the air or gas within the cylinder from the cold areas to the hot areas and vice-versa, bringing about an expansion and contraction of the air or gas which provides a power cycle. The other, a power piston, has rings and compresses the cold air above it in the heated area, where the air expands rapidly, forcing the power piston downward. This reciprocal motion is transferred into rotary motion through a rhombic drive actuated by the power piston connecting rod. Action of the displacer piston is controlled by a second connecting rod which runs through the power connecting rod, which is hollow. The displacer piston times and controls the operating cycle.

Since there is no explosive exhaust the thermal engine is very quiet, which makes it desirable for military uses where quiet operation is important. Speed of the engine is controlled by varying the amount of air or gas within the cylinder.

Rumors

"Asymmetrical automobile designs, with one-half of the car having different fender lines from the other, may make their appearance in the near future."

TRUE—A step in this direction is shown in the design of the new Plymouth XNR experimental model (see pages 38-41). Designs of this type frequently have shown up in Fisher Body Craftsman's Guild competition. It is very likely that a motif of this sort may first appear in a Chrysler product, possibly as early as 1962.

"Firestone will withdraw from racing if present competition for drivers to use its products continues."

NOT LIKELY—Over the years Firestone has sold its tires to race car owners and drivers but also has spent much money in tire development for this purpose. In this research and testing work Firestone has learned many things about high-speed tires that can be learned only from racing conditions. This knowledge has helped in the development of its normal highway tire lines. You can't learn from racing without racing.

"Pontiac will call its new smaller car the Panther or the Pawnee, or perhaps the Papoose."

IMPROBABLE—A name could be picked to tie in with Indian heritage of Pontiac name, but the strongest indication we have is that it will be "Tempest."

"Buick will stop production of its big V8 engine when its smaller V8 aluminum engine is introduced."

POSSIBLE—Buick does plan to simplify its engine line, as have many other makers. It is known that the same engine block using different camshafts, manifolds and carburetors can be made to serve many different purposes. Buick may end up with the 4.13 by 3.40 engine with 364-cubic-inch displacement, or the larger 4.19 by 3.64 engine with displacement of 401 cubic inches—or possibly one series block between these two. The new 215-cubic-inch aluminum engine will also be offered.

"Buick will revert to its earlier model designations of 'Special,' 'Super' and 'Roadmaster' in 1961."

NOT LIKELY—There are some who maintain that confusion in the new model designations has cost Buick sales, but this fault, if real, would be compounded by a second change. It is possible that the name "Special" will be used on Buick's upcoming compact car, if resistance to the name "Invader" grows any stronger.

NEW CLYMER SAFETY HELMETS



\$15.00

The "Sportsman"

1. Flexible Rubber Peak
2. Cushioned for Maximum Comfort
3. Soft Leather Headband
4. Glass Fibre Shell
5. 1/2" Polystyrene Shock Absorbent Lining*
6. Strong Canvas Harness
7. Full Chrome Leather Neck Curtain
8. Ear Membranes of Patent Design
9. Easy Release Chin Strap
10. Detachable Neck Curtain

With fiberglass shell you get the MOST. This remarkable material is **STRONG—LIGHT—RESILIENT and ABRASIVE RESISTANT.** The smooth white shell deflects blows, reflects heat, is easily seen at night, is water-proof and easily cleaned. White shell with black visor and neckpiece, combined with superb styling make this helmet most attractive. This helmet is warm in winter and the neckpiece can be quickly zipped off in hot weather, if desired. Available in 1/2 sizes from 6 1/2 to 7 1/2. Send for free literature and catalog.

ENDURO MODEL\$12.00

Pioneer Importers of Safety Helmets . .
Since 1932.

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FALCON RANCHERO



Falcon Ranchero survived months of testing with heavy loads over rough terrain.

THE FALCON RANCHERO, an economy-size pickup truck with the styling and comfort of a sedan, has been unveiled by the Ford Motor Co. Copying many features from the compact Falcon sedan, the new Ranchero has unitized body; six-cylinder, ohv, 90-hp, 144.3-cubic-inch engine; three-speed manual gearbox (two-speed automatic optional); plus 800 pounds of payload capacity on a 109.5-inch wheelbase. Underbody brackets and panels are zinc-coated for anti-rust protection, and special attention has been given to provide reliable operation under rugged conditions, yet total curb weight is only 2435 1/2 pounds. Box (71.6 inches long) provides 31.6 cubic feet of space.



Angled swivel on passenger seatback allows easy access to spare and tools.



First of the compact car pickup trucks from an American manufacturer, Falcon Ranchero's rugged suspension and 90-hp engine easily haul king-size camper.



**SPECIAL
INTRODUCTORY
OFFER!**

**SPECIAL
INTRODUCTORY
OFFER!**

ANOTHER NEWHOUSE FIRST!

NOW... RIDE ON AIR
NEW 1960 IMPROVED "AIR-LIFTS"

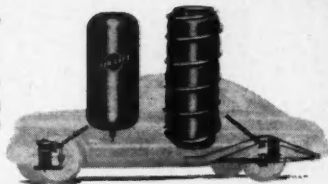
Better Cornering... Better Traction

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YOURSELF
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AIR-LIFTS firm up the rear end for fast starts... straight take-off... controlled ride. Stiffen your springs for drags, quickly adjust for street. Wonderful for trailer pulling, camping loads, etc. Give make, model, year of car

Front \$19.95 Pair

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Now Anyone can afford CADILLAC TAIL LIGHTS

New LOW COST customizing item that really "does something" for your car. ANY MAKE car. Completely wired, with chrome housing, lens, and fittings... plus instructions to adapt to ANY car.

ONLY \$6.95



(\$12.50 pair)

SCAVENGER PIPES LATEST CALIFORNIA CRAZE FOR STREET OR DRAG STRIP

Here is a customizing idea that makes sense! (A) FLARED "venturi-type" ends SCAVENGE exhaust quickly. (B) Installed straight back (below axle) you eliminate usual bends... less back pressure, more performance. (C) Imparts good-looks to your car... fine-sounding throaty rumble to your exhaust. Triple chrome plated. Full 48" (4 feet) LONG. (Also shorties 7" long) Specify 1 3/4" or 2" dia. Each... \$3.95



Shorty

89¢

UNI-SYN CARB TUNER



SYNCHRONIZE 2, 3 or 4 carbs with extra sensitive, ACCURATE "UNI-SYN." Adjust carbs for smooth POWER, & perfect idle. Full instructions included... only \$9.95 postpaid. (For 4 bbl carbs. \$12.50 postpaid)

"1950" LANCER DISCS... Brilliant, sparkling wheel discs, gleam like fine jewels. Dress up your car at small cost. Triple chrome plated plus super beautiful white inlaid trim. SPECIAL \$34.95.



ENGINE ADAPTORS



Where else but at Newhouse can you get a bargain like this! Precision Adaptor to harness powerful Olds engine to that early Ford or Mercury. All others in stock. Complete only \$14.95.

FULL TUBULAR GRILLES

Clean lines sweep clear across, curve beautifully at sides. 55-60 Chev, 52-58 Ford, 55-56 Plymouth, only \$29.95.

Tubular Type Grille (¾ tube) only \$19.95.



NEW LOWERING KITS

FRONT... FOR ALL CARS WITH FRONT COIL SPRINGS. Now you can lower your car all around. New easy way permits drop of front end 2" to 3". Better cornering, safer. (We also have kits for rear—2" \$4.45, 3" \$5.45). Front (Both Sides) only \$4.95

FREE-LUCKY LIGHTER

ASK for your LUCKY KEY LIGHTER sent FREE with order for \$5.00 or more. Carry it on your key chain... always ready for use... will surprise your friends. Value \$1.50



NEW GIANT CATALOG

1960
FREE!

With every order (otherwise send only 25¢ to cover handling and mailing)

HEAVY MODEL



They get you GOING faster! What good is power if TRACTION is lost? Drive a safer car! Stop tire "chatter." Get SOLID drive-line and braking performance. Per PAIR... only \$39.95

"PERMA-BRONZE" Filter lasts FOREVER. (Rinse and it's like new). SAVE MONEY... oil lasts LONGER, engine lasts longer. By-Pass element \$4.95, Full-Flow \$8.95, Complete Filter (with case) \$12.95 postpaid.

POROUS BRONZE OIL FILTER



CHROME PLATED



Genuine "POSI-SHIFT" Stick Conversion Kit. Voted BEST of them all. Price includes CHROME Lever, also boot, plate, & knob. Standard "H" pattern. Truly POSITIVE. NO WELDING, NO BIG HOLES TO CUT. Complete Ansen POSI-SHIFT only \$48.95

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Easiest way to get up to 20% more power. 180° Firing Order — vacuum scavenging... you get full intake charge. Chev, Inc. 348 C.I., Ford, Merc, Plymouth, T-Bird, Corvette... \$56.95



Increase HP 20%

NEW CHROME KITS \$4.95



"CHEM-CHROME" gives anything a gleaming surface. Easily applied to rusty bumpers, trim, plumbing, fixtures, etc. No need to remove trim for refinishing. Complete, postpaid, only \$4.95

"AUTO-TIMER" Spark Selector. Get more POWER, up to 20% MORE... mileage, quicker starting. Adjust spark instantly from your dash for all driving conditions. Triple chromed. Only \$6.95 postpaid. Great item.



EXTRA 2 1/4" DROP

Heavy duty dropped axles. NO FORGE MARKS. Better cornering. PERFECT ALIGNMENT. Fords, Mercs through 1948, \$27.95. \$11.00 refund for old axle.

DROPPED appearance of Stock Axle

NO FORGE MARKS

348" VALVE COVERS



Chevy Finned Rocker Arm Covers in brilliant polished thick-cast aluminum. Final touch for an immaculate engine. More efficient, too... cooler, deadens sound. Pair... only \$45.95



MAGNESIUM ROCKER ARMS

Light, NO "float" at full RPM. High valve LIFT, equal to ¾-race cam. Install them yourself, easily. Chev 6, GMC, OHV Ford 6 \$38.75; OHV Ford V-8, Olds, Cad, Merc, Pack, \$33.75 set.

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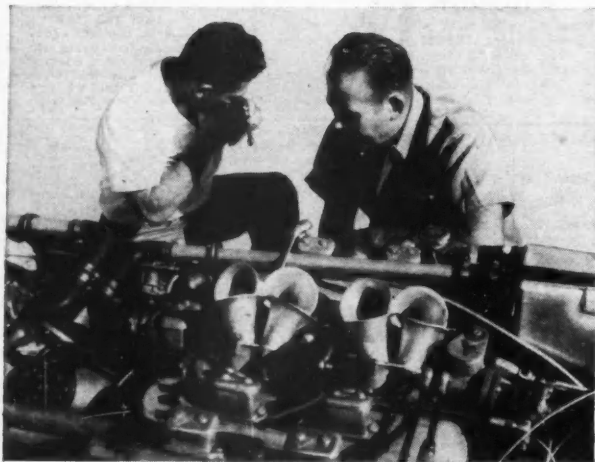
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Mickey Thompson's 4-engined, Champion-sparked Challenger I is a blur as it "passes the salt" on the 363.67-mph record run. Black line near car is specially painted on entire 12-mile length of the course to guide driver, keep him on course. Thompson's only view out is through 4-inch-square window. Tiny opening gives sharper view at high speed.

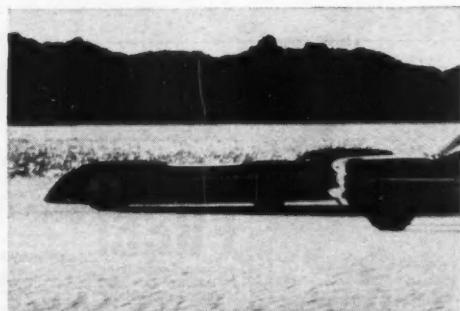


After trial run, Head Mechanic Fritz Voigt (right) and Champion Racing Engineer Dick Jones inspect spark plugs for fuel mixture and combustion temperature indications. (Spark plugs can tell many things about an engine to the experienced eye.) Says Voigt, "We always use Champions. They give perfect performance."

The Sunday before the record run was devoted to picture taking. The group of photographers, reporters and others near the main timing shack made a small island of incredible confusion sitting in a great sea of salt. A good many people got up much earlier than usual to be on the salt before sunup each day.



"I'll tell you how fast we went," says Thompson, as crew works to ready car for second leg of record run. Champion engineer Jones (2nd from right) checks plugs, reports fuel mixture and Champion J-63R heat range satisfactory.



Champions spark the power for . . .

The Fastest Run That Automotive Engines Ever Made

A blue blur flashes across the dazzling white salt at Bonneville.

And back again! Mickey Thompson—America's fastest driver—pilots his 4-engine Challenger I to a new American Land Speed Record—363.67 mph!

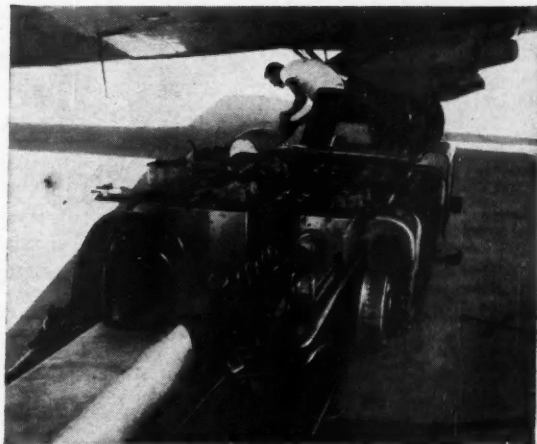
And his Champion spark plugs deliver perfect performance . . .

On October 6, 1959, Mickey Thompson took the fastest ride ever powered by automotive engines. Doing it, he set a new American Land Speed Record and four International Unlimited Records—for 5 kilometers, 5 miles, 10 kilometers, and 10 miles. (John Cobb, the only man ever to drive faster than Thompson's 363.67-mph mark, did so powered by huge aircraft engines.)

Thompson, who had already become America's fastest driver, spent a year carefully designing and building his fabulous speedster. He powered it with four big Pontiac mills—one for each wheel. And to spark these engines he chose Champion plugs.

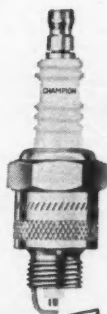
Mickey Thompson knew from his own record-setting experience that he could depend on Champions to deliver every possible rpm from his specially blended racing fuel. After all, Champions had already sparked the power for the world's fastest 500-mile sprint car races (Monza and Indianapolis), the fastest automobile race ever run (100-mile sprint at Daytona), and the fastest stock car race ever run (Daytona, 500 miles). And Champions had set stacks of other records, too.

Whether you're getting ready to run for a record, or just looking for top all-round engine performance, you too can depend on Champions . . . the speed world's favorite spark plugs.



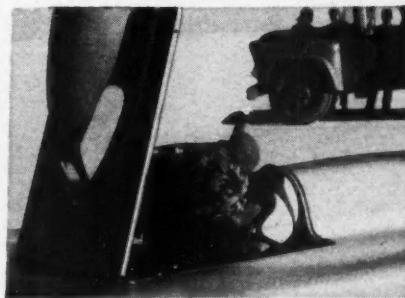
The only shade for 200 square miles, under airplane's wing, serves as "hot rod shop" for Challenger I. Aluminum body shell is off, revealing car's complex of mechanical muscle and bone. Two engines turn clockwise, two counterclockwise. One clutch engages engines, which don't go into high until about 300 mph.

CHAMPION
SPARK PLUG COMPANY
TOLEDO 1, OHIO



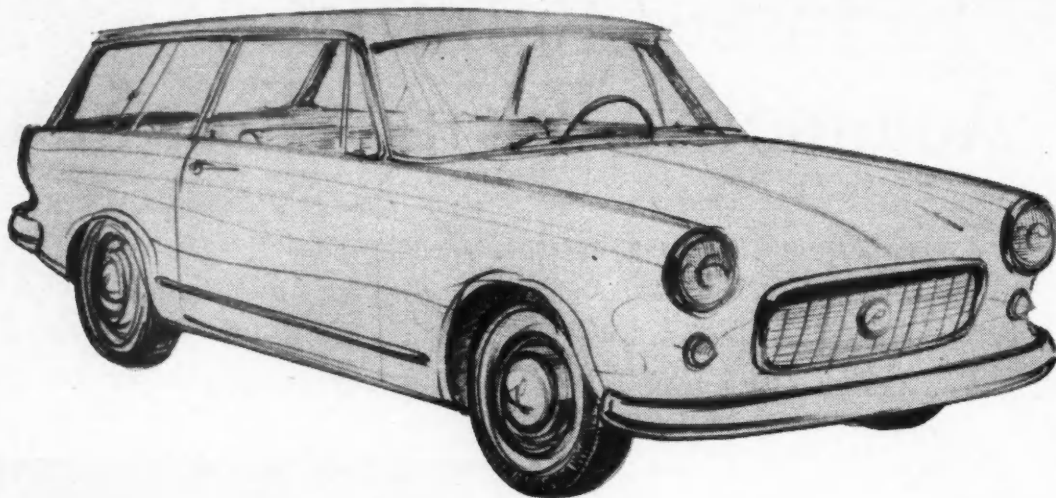
CHAMPION

SPARK PLUGS



Thompson gets kiss from wife Judy before starting run. She always pushes him off in family car, so has never seen him drive near top speed. Most of crew goes ahead to turnaround area before Thompson starts. Thompson's personal car and supply truck are also Champion-equipped.

What's Next?



NEW SMALL CAR FOR AMERICAN . . . ?

REVIEWING THE SPECTACULAR sales record of the Rambler lines within the past two years—and anticipating the U.S. car climate in the next few years—it is interesting to conjecture on what American Motors might do in the near future. . . .

The popular Rambler Six and V8 will likely continue with minor changes, while the Ambassador may find itself being quietly eased out of the line. The American would continue unchanged but with a choice of two engines: for performance-economy, the ohv water-cooled six; for all-out economy, the aircooled V4. The Austin-built Metropolitan might well be dropped as BMC concentrates on the new transverse-engined cars. To replace it, there could be an all-new V-4-powered four-passenger economy automobile (pictured in sedan form, below, and as a station wagon, above).

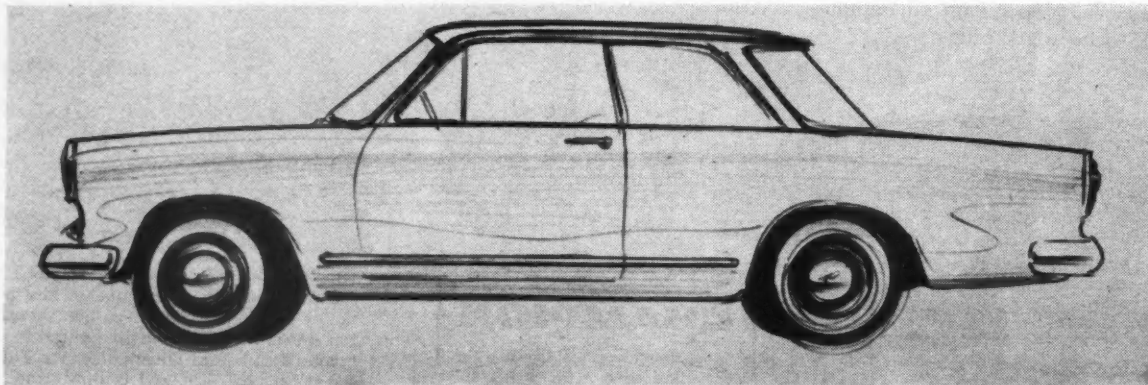
Styling could be a lot like the Rambler American, but probably squared-up into the latest crisp Italo-American mode. Naturally, the body would be a unit-chassis job, with front suspension following

the regular AMC design pattern—a long coil spring on a kingpost.

The engine would be in front, with a transmission bolted to the back of the block. There would be a choice of three-speed, three-speed with overdrive, four-speed and automatic gearboxes, all with aluminum cases for lower weight.

Wheelbase of 94 to 96 inches would put this car in the VW class, in which a tough sales battle is looming on the horizon. This effort to make a smaller compact—or a bigger small car, if you wish—reflects long-range AMC management thinking. In about two years the 1950 American, now in Mark III form, will be outclassed. By the time it is ready for final retirement, however, this new car will have established itself firmly, and the tooling costs will have been amortized to a large extent, making price cuts possible.

One more possibility not to be overlooked: the future may find AMC back in the very small car business, with a two-seater minicar which would fulfill the urban-shopping function of the Metropolitan.



CONJECTURAL PROFILE OF THE NEW SEDAN VERSION SHOWS FARINA'S DESIGN INFLUENCE IN THE INCREASINGLY POPULAR SQUARE LOOK.

Glove COMPARTMENT

MULTI-COLORED HIGHWAYS, made by compounding plastic materials with aggregate, are being studied by Esso Research and Engineering Co. Applications can add to increased safety as well as eye-appeal: colored lanes in intricate clover-leaf patterns on high-speed superhighways can help control traffic flow. Full-scale tests on heavily traveled roads are planned.

FOR YOUR LIBRARY—*Automobile Year, 1959-1960*. This seventh annual volume carries forward a great tradition, its more than 200 large-size pages filled with the exciting stories of the men, marques and machines that made automobile history during the year. Added to racing records, production figures, and technical specs are hundreds of photos—in brilliant color and sparkling black and white. Breathtakingly produced by Ami Guichard, book is obtainable direct from *Automobile Year*, Box 1109, Lausanne, Switzerland (\$9.95).

The Story of George Romney by Tom Mahoney is the colorful biography of "the father of the compact car"—one of the most dynamic men ever to appear on the U.S. automotive scene. The account of his earlier years, his unwavering faith in the face of overwhelming obstacles, his tireless energy and dogged persistence combine to make a story of insight and inspiration, and helps to explain the driving force behind American Motors' phenomenal success story (Harper & Brothers, \$4).

PLANNING A TRIP? No need to worry about finding good eating places along the road. Just write for a free copy of the *Motor Travel Directory* published by C.A.R. (Certified Associated Restaurants). It lists approved "family-type" eating establishments alphabetically by state and city. Send your request—along with a four-cent stamp, please—to C.A.R., 1521 Hennepin Ave., Minneapolis 13, Minn.

SOUTH OF THE BORDER drivers are individualists, too—and the signs they put on their vehicles reflect their personality. A correspondent in Mexico City reports seeing the following on buses and trucks that dash wildly through that city's traffic: "Now that I know the good life, I spit on the ordinary," "Little hair, but well combed," "Follow me in reverent silence" (on a garbage truck), "Old and broken down, but chaste," "Instead of trying to pass me, push me."

(Wonder if tiny sportscars bear this legend: "Help stamp out tall chihuahuas.")

AFTER-DARK TRAFFIC SAFETY is furthered by West Virginia's becoming the ninth state to adopt reflective automobile license plates—following the lead of Delaware, Louisiana, Maine, Michigan, Minnesota, South Dakota, Wyoming and North Dakota. Thirteen other states are testing such plates—is yours? —Compiled by Erv Rosen

ei COMPETITION PARTS & ACCESSORIES FIBERGLASS BODIES

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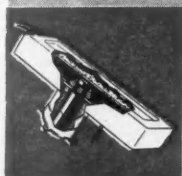
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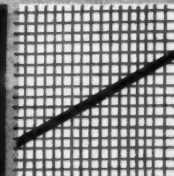
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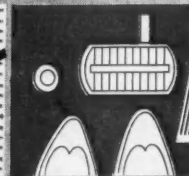
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2



DATE
BAIT?

YOUR GIRL FRIEND may look limpidly into your eyes—but if she's teen-aged, angora-sweatered and cuddly, chances are she's got a secret heart-throb: Detroit.

Concedes 16-year-old Nancy W., a high school junior in Miami, "I'd never go honest-to-goodness steady with a boy who didn't own a car . . . or at least had the keys to his family's car."

In Toledo, a "pinned" brunette—who's been keeping steady company for two years now—confesses she worked after school six months helping her boy friend make a \$400 down payment on "their" car.

"It's ours . . . ours *together*," she purrs.

Lilts a pretty senior-A in Chicago, "I never consider whether a fellow has a car or not when I accept a date." In the next breath she admits, "But it's been ages . . . since I had a bus-date."

Who's BMOC on *your* high school campus? "Not the gridironer, for sure," shrugs a senior and quarterback in Seattle, as he gestures dismally at the block-letter he's sporting. "The block that counts with the chicks nowadays isn't on a guy's sweater . . . but under his hood."

Coast-to-coast, MOTOR TREND surveyors, polling teenagers, their dates, parents and school authorities, found that your car—whether hot rod, import or spanking new Detroit '60—is the most controversial figure on high school campuses.

Your car? It's date bait: a high-octane status symbol that has sparked a four-barrel social revolution.

The revolution reaches into your school . . . and into every one of the nation's nearly 30,000 high schools, public and private. Student parking lots (themselves an innova-

continued on page 60

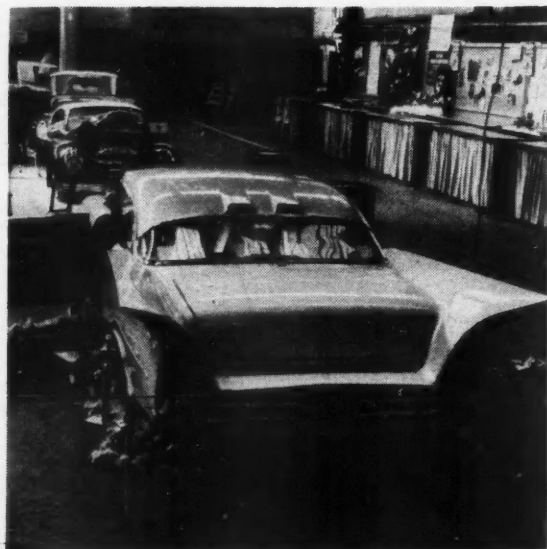
by James Joseph

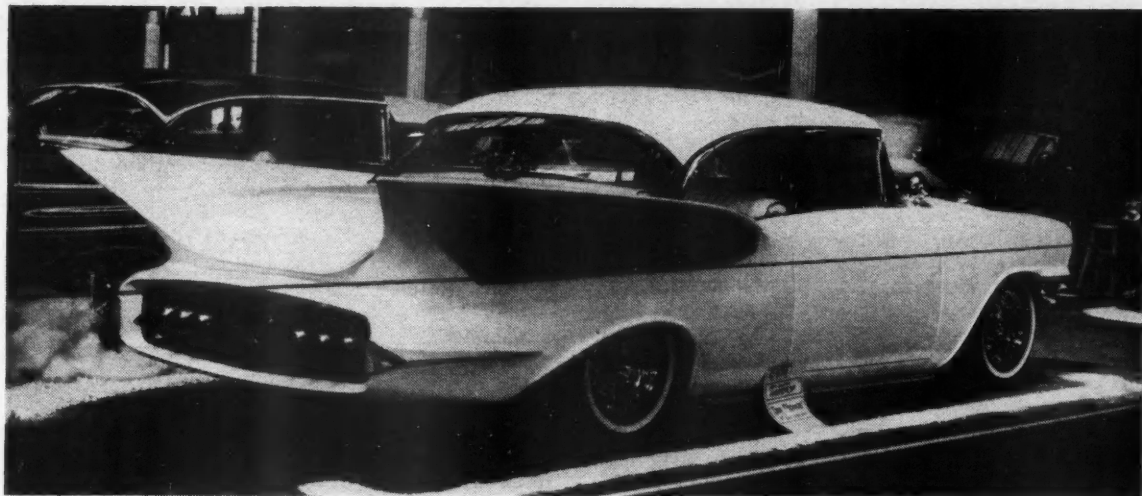


Ohs and Ahs at Oakland



In our opinion, one of the outstanding customs at the 12th Annual Roadster Show in Oakland was this '56 Chevy owned by John Buchan of Seattle, Wash. With a week-old paint job, he drove it 1000 miles "just for the show." Car has Corvette engine, has turned 104 in drags. Wild fins were handmade; trunk houses drawers for tools.



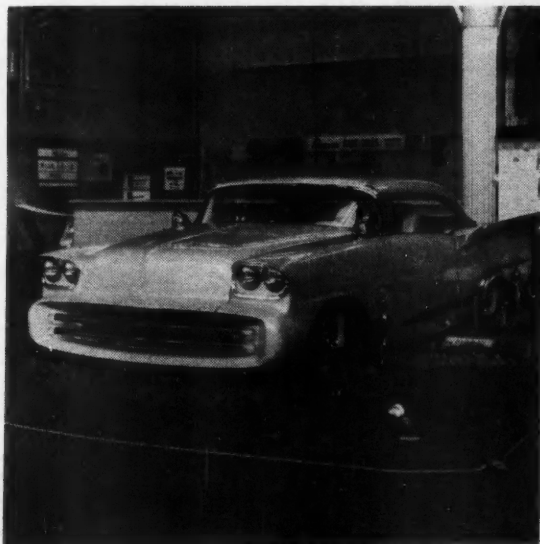


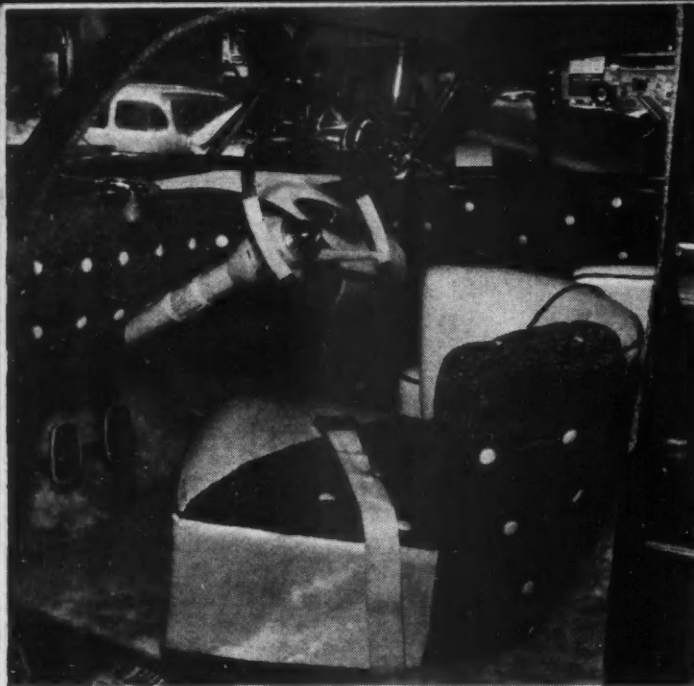
Outstanding features of Tom Thomas' '56 Chevy are its special fins, reformed trunk and tail light treatment using six lights from a Caddy.



John Macia, Jr. of Hayward owns this custom Porsche with canted quad headlights. Other features: pleated, rolled upholstery; stainless steel firewall and chromed engine parts, chrome wheels; pearl paint with U.S. racing stripes.

19-year-old carpenter Buchan explains (below, left) how he contoured the swivel seats in plywood, then had them upholstered in red frieze and leather. Car has been chopped 3½ ins., has a handmade, tubular grille, reversed hood, and '58 Impala and '57 Buick side trim.





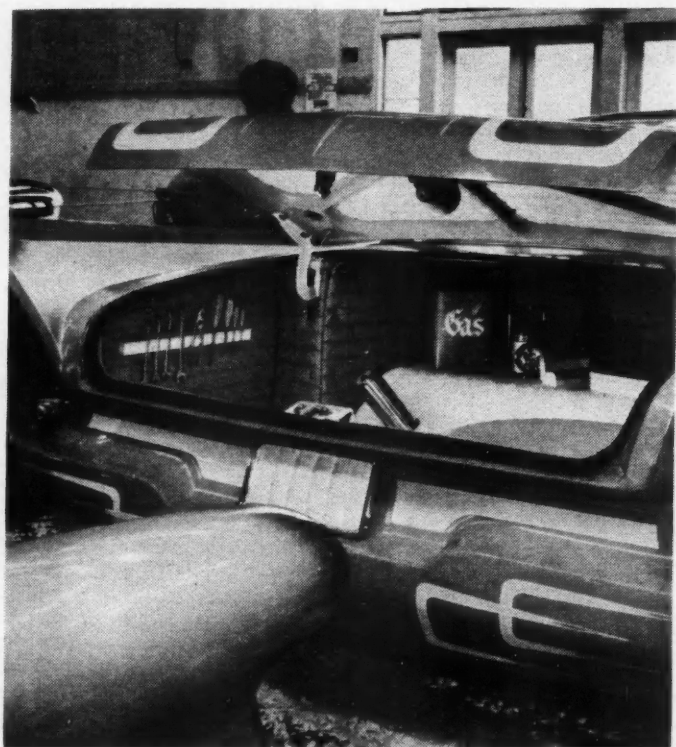
Most unusual feature of this Bailon custom is its interior by Fremont Upholstery: "bedroom"-type swivel seats, "cutaway" and padded dash panel with a lone central instrument. The floor is covered with plush "llama wool."



A Study in Style: Jim Gimenez' '56 T-Bird and Joe Pasalaqua's '36 Ford phaeton. T-Bird has extended front, two-piece grille, special bumpers, canted lights. Phaeton is stock, except for '48 Merc engine and chopped top.



Wonder why Frank Caraway's '58 Chevy is called "Scoopy?" It has 40 scoops splattered on it! Grille is made up of six concentric tubes. Joe Boliba's '56 Chevy (on left)

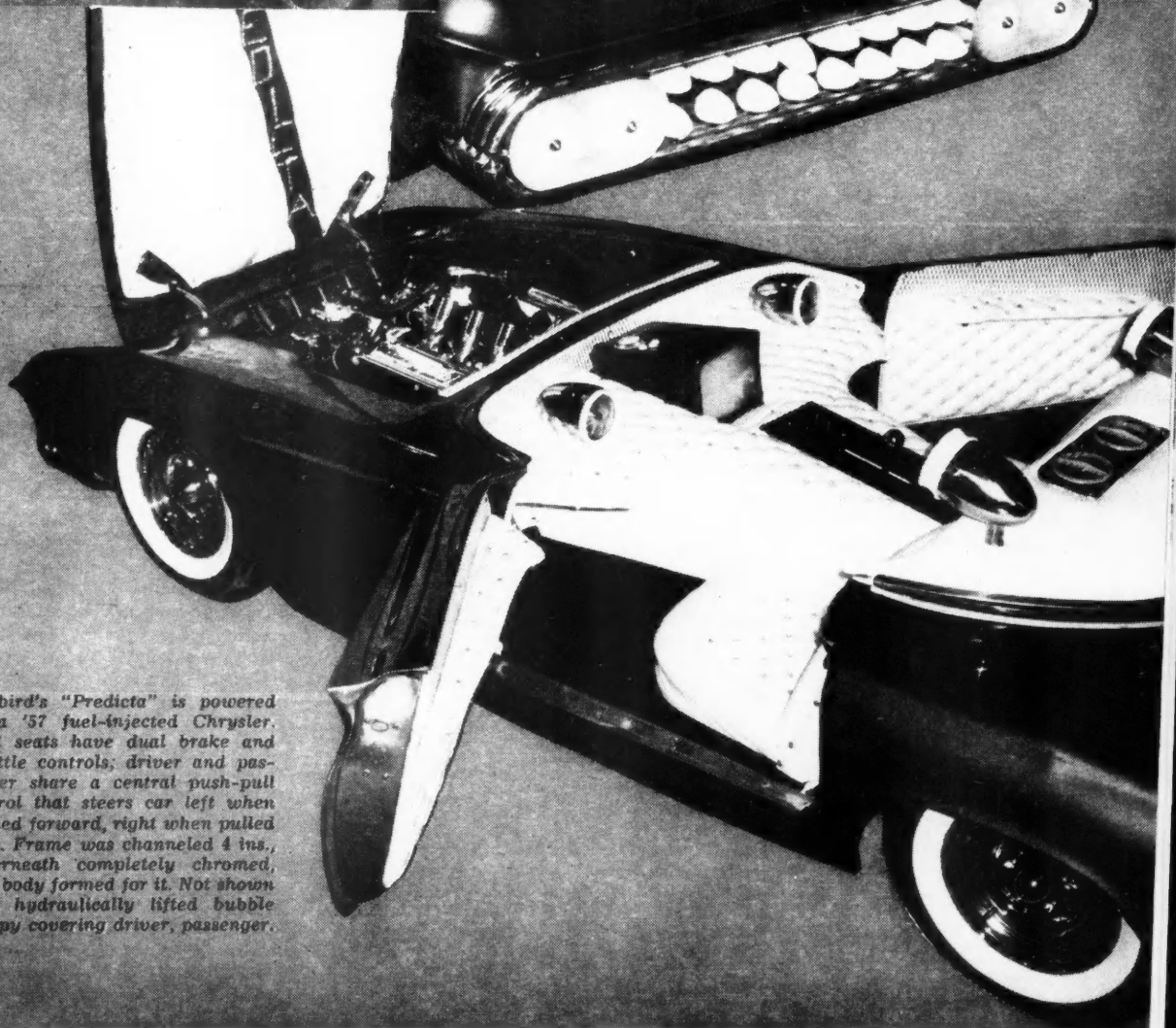
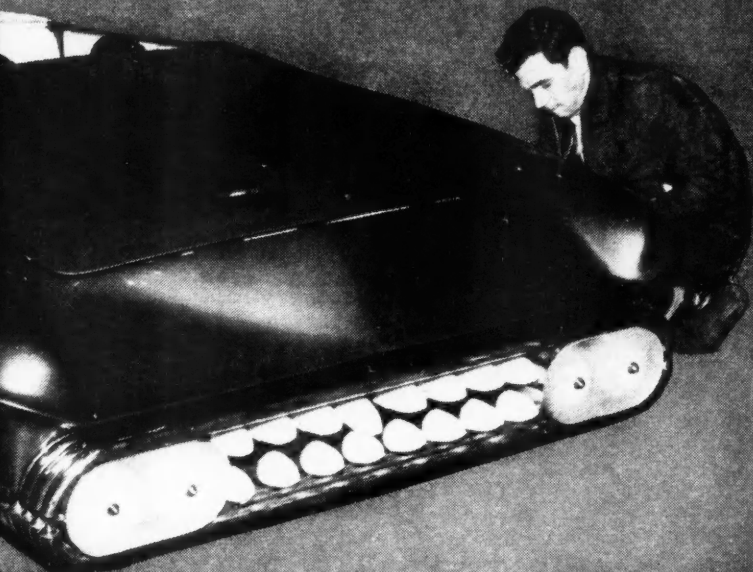


looks tame by contrast, but has an interior like the one at top left. Trunk of Eddie Johnson's '57 Plymouth is completely padded, with place for tools and emergency gear.

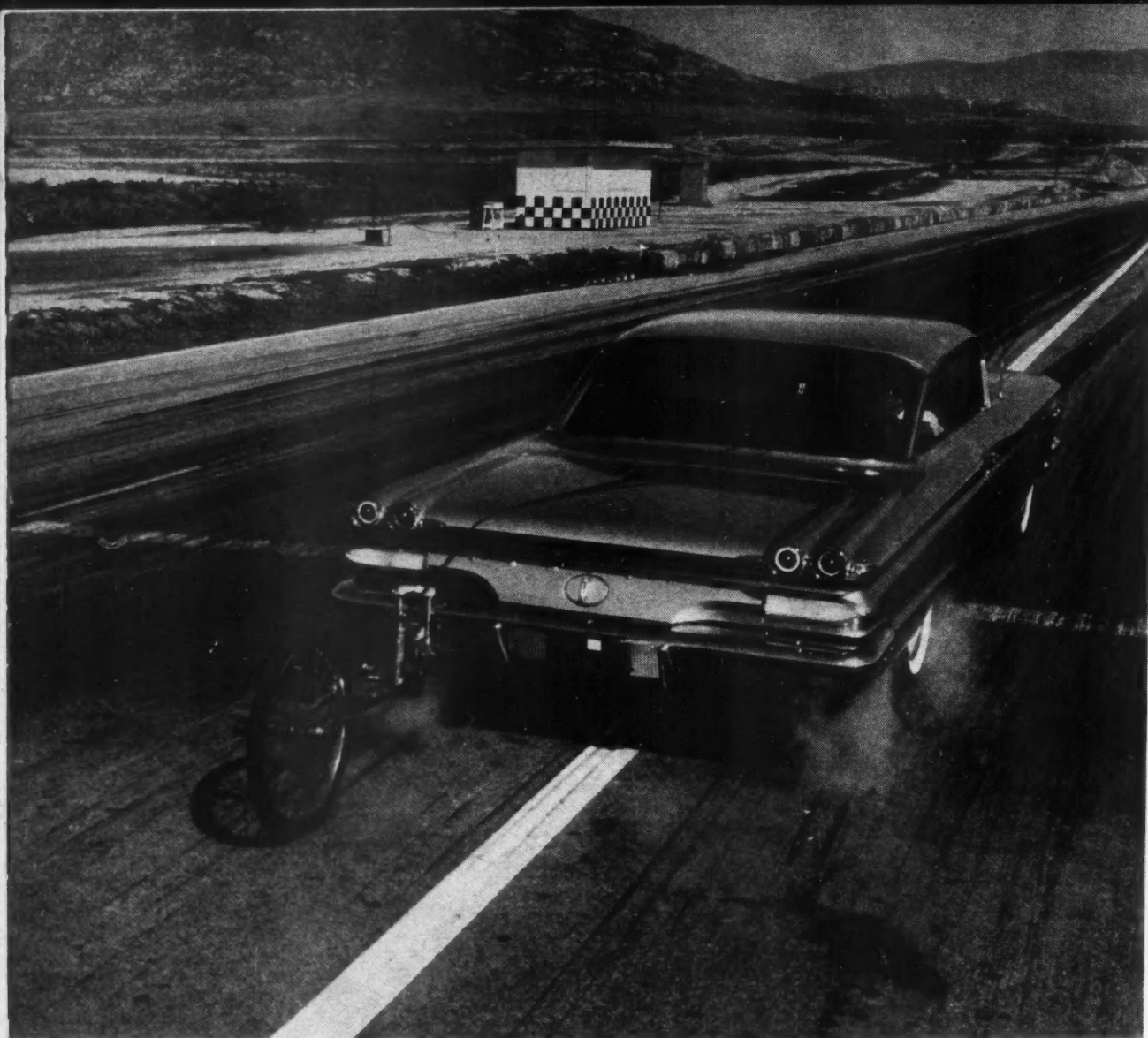
Ohs and Ahs

continued

Latecomer to the show was this unique '56 T-Bird built in just 3 months at a cost of \$15,000 by builder-owner Darryl Starbird, who trailered it out from Wichita, Kan.



Starbird's "Predicta" is powered by a '57 fuel-injected Chrysler. Dual seats have dual brake and throttle controls; driver and passenger share a central push-pull control that steers car left when pushed forward, right when pulled back. Frame was channeled 4 ins., underneath completely chromed, new body formed for it. Not shown is a hydraulically lifted bubble canopy covering driver, passenger.



PONTIAC'S POWER IS EVENLY DISTRIBUTED BY LIMITED-SLIP DIFFERENTIAL AS BOTH REAR WHEELS PULL BLUE SMOKE GETTING OFF THE LINE.

Base for a ***BOMB!***

**Take a stock 333-hp engine, add
three pots and a floor shift . . .
You're still stock—but stacked!**

EYEING THE SPEEDS attained by certain "stock" cars in the recent carnival of speed at Daytona Beach, Fla. could bring many a raised eyebrow and questions from John Q. Public, who is driving the showroom stock version of these very fast automobiles. If these are stock cars, why are they so much faster than the real stock version?

It is no secret that extensive modifications are made to engines, steering and suspensions for stock car racing. Optional items that make such speed and handling differences possible must be catalogued by the automobile manufacturer and offered for sale. What cannot be catalogued, priced, or offered to the general public are the skill and patience of the mechanics who prepare and tune these cars. Some engines have a basic design that makes it easier to get more out of them with fewer modifications than with engines of different design.

Pontiac, for example, set some very fast times

on the tri-oval at Daytona. Basically, the engine is a 389-cubic-inch ohv V8 with big valves and ports, which puts out a lot of horsepower in its basic stock condition. Over-the-counter options include compression ratios as high as 10.75 to 1 and three two-barrel carburetor manifolds.

Modern automotive production allows certain tolerances in machining and fitting of parts. These are well within the limits for ordinary performance and reliability and any closer production line tolerances would increase the manufacturing costs beyond the average car buyer's pocketbook. When preparing a car for competition, however, cost is of little consequence, and an appreciable increase in horsepower is possible by disassembling and refitting the engine to the exact fits and limits around which it was designed. This means that all similar reciprocating parts weigh the same, have the same friction factors, and are operating at maximum efficiency.

In true stock condition, with no refitting or internal work, just tuned on a chassis dyno for maximum ignition and carburetor settings, the Pontiac engine can win trophies at the dragstrip. Just to be sure the MOTOR TREND test car was over-the-counter stock and well broken-in and tuned, we practically lived with the car since it was delivered to Rick Finney, son of the owner of Finney Pontiac of Los Angeles. The car as delivered was a Ventura two-door hardtop with the heavy-duty three-speed column-shift manual transmission, 3.42 to 1 Safe-T-Track limited-slip rear end, four-barrel carburetor, 10.75 to 1 compression ratio, and 333 advertised horsepower.

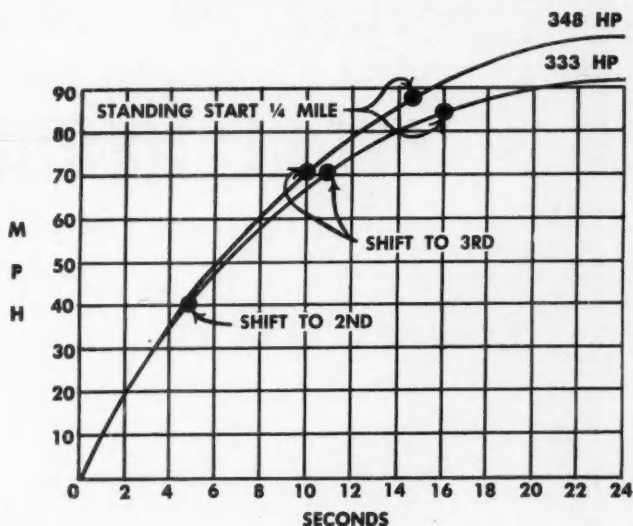
Young Rick drove the car around for several weeks, watching oil consumption carefully for that point that indicated the rings were well seated, and then we made some runs. Acceleration was smooth, with quarter-mile speeds in the middle 80s, but the elapsed time was rather high and Rick thought the column shift and guessing at rpm's were slowing him down.

While we were installing a Sun electric tachometer and an Ansen floor shift, a three-carburetor manifold, complete with the three two-barrel jugs, became available at his dad's agency, and we decided to abandon the 333 hp and go for 348 promised by this addition. This modification was strictly a bolt-on as we wanted to avoid porting, polishing or balancing in keeping with our strictly over-the-counter horsepower tests.

Back to the dragstrip on Riverside Raceways we went for another series of two-way runs timed against watches and electric speedometer. Speeds went up and elapsed times went down. The limited-slip differential kept us in a fairly straight line coming off the line, and the Sun tach and floor shift proved Rick was right. Shifting from 1st to 2nd at 5000 and 2nd to high at 5500 brought our speeds consistently to the high 80s and ET down to the high 14-second bracket. From the acceleration curve based on timed runs, it is easy to see how high top speeds are possible as the curve continues upward quite steeply.

Having proved to ourselves how basically good this engine option can be and how much horsepower one can buy strictly "stock," we no longer raise eyebrows at the near-150-mph speeds posted on the Daytona oval by "stock" racing Pontiacs.

—Chuck Nerpel, Technical Editor

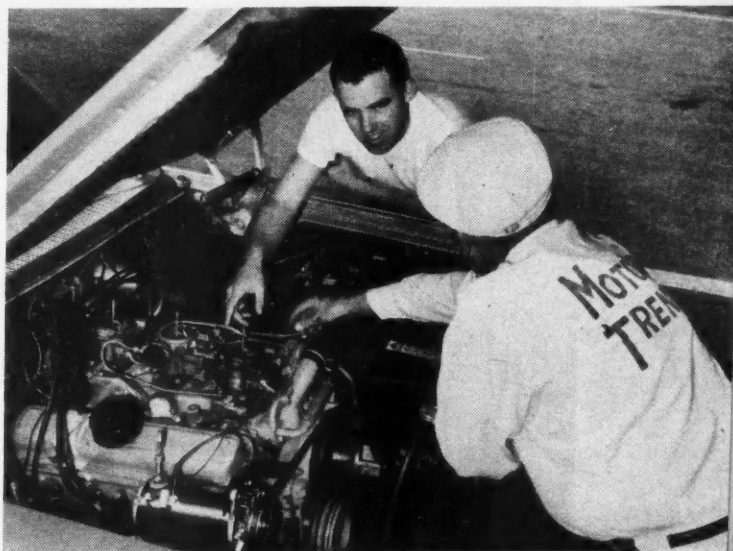


Acceleration

0-45 mph 5.7 secs. 0-60 7.9
Quarter-mile 14.8 secs., 89 mph
30-50 2.4 45-60 2.2 50-80 6.0

Top Speed

Estimated maximum speed
138 mph



Owner of the Pontiac Ventura test car, Rick Finney, left, and MT Tech Editor Chuck Nerpel make final adjustments to the carburetor linkage. Tests were run without air intake filter.

After we published our report on the NSU-Wankel engine (Mar. '60 MT), many disbelievers thought it was a hoax. One even went so far as to say,

"IT'LL NEVER WORK!"

But it does! And to prove it, our European Editor drove one of two test NSU cars fitted with the engine. In this exclusive follow-up road test report, Gordon Wilkins says, "I think it is the disbelievers who are sticking their necks out."

ENGINE IS ALMOST HIDDEN BENEATH DYNA-STARTER AND WATER PUMP (CENTER). CLUTCH HOUSING IS AT LEFT, RADIATOR AT RIGHT.





Author Wilkins, about to road test the rotary-engine NSU Prinz, discovers only outward evidence of revolutionary powerplant are extra airflow slots in rear deck, fender. With him is Dr. Froede, NSU's chief development engineer.

by Gordon Wilkins, European Editor

WHEN NEWS OF A REVOLUTIONARY new rotary piston engine—a quarter of the weight, and a fifth of the bulk of an ordinary piston engine—swept around the world (Mar. '60 MT), many experienced automobile engineers smiled tired smiles. When it was added that it could probably be produced for far less than the car engines we know today, their skepticism increased. They had heard it all before. To them, Felix Wankel was just another hopeful inventor and the fact that NSU in Germany and Curtiss-Wright in the U.S. were backing its development with big engineering resources failed to convince them, for the rotary piston engine is no new idea. For half a century inventors have dreamed of an internal combustion engine with a simple rotor which would do away with pistons, connecting rods, valves, valve springs, pushrods, rockers and camshafts; an engine that would be smoother, lighter and more compact than the piston engine, simpler, cheaper, more responsive and more economical than the gas turbine. The patent files are full of their schemes, but up to now none succeeded.

Yet, where others have failed, Wankel has succeeded. The engine is not a figment of someone's imagination . . . it works. It has been bench-tested, endurance-tested and road-tested. I know. I saw the engines. And I drove one of two test cars with the engine fitted in place of the normal two-cylinder piston engine.

From outside the only sign of anything unusual is the provision of air slots in the engine compartment cover and in the right rear fender; this provides an airflow through the radiator, as the casing of the NSU-Wankel engine is watercooled, whereas the normal Prinz engine is aircooled. When you open the engine compartment, the little Wankel engine, contained in a drum-shaped casing only nine inches in diameter and seven inches deep, is difficult to find, as it is almost hidden by the dyna-starter, carburetor and water pump. It is only a 250cc unit, but it produces as much power as piston engines four

times the size. On the test bed it has produced about 40 hp at over 10,000 rpm, but for car use it is limited at present to 8000 rpm to permit use of standard dyna-starter, water pump and clutch, and it develops about 30 hp.

Driving around the private test track which adjoins the factory at Neckarsulm in West Germany, where NSU employs 7300 people building cars, motorcycles, mopeds and motor scooters, I found the performance was slightly better than that of a Prinz with the standard engine. The complete absence of vibration was almost uncanny. The engine is started normally by turning the ignition key. As it is very well balanced there is not a tremor as it starts and only the exhaust note, of quite a normal kind, indicates that it is running. Accelerating through the gears, it was astonishing to see from the instrument panel that the engine was reaching about double the revs normally attained by a touring car engine. There was no fuss and nothing in the exhaust note to indicate it, because the rotor is turning at only one-third of the speed of the output shaft, and there is only one exhaust impulse for each revolution of the output shaft, instead of two or three as with four- or six-cylinder engines. In fact, the exhaust sounds rather like that of a two-stroke engine, but without the uneven beat at low speeds.

The test car which I drove had the normal Prinz gearbox, but because of the Wankel engine's greater rev range, gear changing was slower than usual. Probably more ratios, more closely spaced, would be needed if the engine were produced in its present form. Response to the throttle is immediate and when the throttle is closed the engine slows the car normally, the engine braking effect being something between that of a two-stroke and a four-stroke piston engine. There is none of the disagreeable feeling of waiting for the engine to accelerate, and then running on at undiminished speed when you take your foot off the accelerator which is such a disagreeable feature of one's first drive in a gas turbine car. *continued*



Sealing between the rotor and chromeplated chamber is by "piston ring"-type sealing strips at tips and sides.

"IT'LL NEVER WORK!"

continued

At present the engine is not very flexible; maximum torque of 30 lbs.-ft. is delivered at 5500 rpm, the point where conventional engines are producing their maximum power, so one has to keep the revs up and change gear fairly frequently for maximum performance. Fuel consumption is already down to the same level as for a piston engine. Dr. Froede showed me steady-speed fuel consumption curves obtained from the two test cars on the test track, which gave about 60 mpg at a

steady 30 mph and 36 mpg at a steady 60 mph. Engines have successfully concluded 100-hour endurance tests on the test bed, and the two test cars have already run about 25,000 miles between them, but of course much more prolonged testing is needed before an engine could be passed for production.

At present the rotor is cooled by lubricating oil pumped through the main shaft and the test cars have oil coolers like those used on the Volkswagen. The outer casing is water-cooled and on the test cars, the water pump and radiator of a Fiat 600 have been installed temporarily. Development work is in hand to produce an aircooled casing, which would be essential before one of these engines could be adopted for use in scooters or motorcycles, but this will take time. The prototype engines use expensive ball and roller bearings, mainly to ensure freedom from bearing troubles while other aspects of the design are being studied. The main shaft runs in one ball and one roller bearing; the rotor on a four-row caged roller bearing. Dr. Froede told me he expects the engine to run equally well on cheap plain bearings, but this too has to be proved in development running. When this has been achieved, he expects that the NSU-Wankel engine can be produced in quantity at about the same price per pound as a piston engine. As it weighs only a quarter as much for the same power, it should do the same work for a fraction of the cost. Points such as those mentioned, plus the need to improve low-speed torque will probably demand a few more years of work before the rotary piston engine is ready to replace the present power units in our cars, but it is already a far more practical automobile power unit after only six years of development than the gas turbine after 15.

Meanwhile, industrial engines used to drive pumps and other equipment which operate at constant speed, and aero and marine engines which need a limited speed range with corresponding power output, present fewer problems than the automobile engine which has to stand up to infinite variations of speed and load. For these applications, the NSU-Wankel engine may be much nearer; indeed Curtiss-Wright are talking of producing a one-liter engine giving 160 hp quite soon and they have designs for four units coupled together to make a hefty little aero engine of 600 hp. After seeing the caliber of engineering effort which is being put into the rotary engine, and the immense progress achieved in a very short time, I think it is the disbelievers who are sticking their necks out.

Here are more "simple secrets" of the rotary engine...

MOTOR TREND'S REPORT on the NSU-Wankel-Curtiss-Wright rotating combustion engine (March issue) brought a flood of reader mail asking for additional technical data. Through the efforts of our overseas staff and the Curtiss-Wright Corp., we have been able to gather the answers to most of the questions left unanswered in our previous report.

Foremost among the questions was how the rotor sealing was accomplished without high friction losses, heat and excessive wear. We are informed that the rotor tip and sides contain simple strips of cast iron, much the same material as standard piston rings, backed by crinkled spring steel strips. In addition, the periphery of the static chamber is plated with .010-inch

of hard chrome and then ground to the proper clearance.

The rotor now in use is made of nodular cast iron and is cooled and lubricated by a pressure oil system that also lubricates the shaft and rotor bearings. An ingenious scroll-type reservoir within the rotor not only cools it but prevents oil losses in the combustion chamber due to centrifugal force. Additional lubrication for the rotor tips was originally provided by oil added to the fuel in a ratio of 1 to 50; this has been reduced to 1 to 200, and Curtiss-Wright have been running test engines with no oil added to the fuel.

The experimental engine installed in the NSU Prinz automobile is watercooled and uses a Fiat 600 water pump and

radiator. Oil cooling is by VW oil radiator. An aircooled version for motor scooters and motorcycles is under way and should be a very light unit, as the watercooled 125cc model with aluminum outer case weighs about 24.2 pounds.

Fuel consumption is about equal to conventional piston engines of the same displacement, but horsepower is quite a bit higher. Test bench 250cc engines are putting out 40 bhp at over 10,000 rpm and the units used in cars are rated at 30 hp at 8000 rpm. The engine speed for automotive applications has been reduced so that it can be used with standard transmissions, water pumps, clutches and dynastarters. Engine starts easily at cranking speeds of 500 rpm.

a Study



in Stude

Making a '53 coupe shorter and hotter

A BUSINESS COUPE WITH BEANS. That's what Robert W. Temple, former Detroit design engineer, wanted. He had a '53 Studebaker Commander coupe (illustration below) which he liked, "except for the fact that it had insufficient horsepower, atrocious brakes and a superfluous rear seat."

He started the transformation by cutting and telescoping the frame for 20 inches, giving a shortened wheelbase of 100½ inches. This provided a double box frame through the splice area which increased rigidity. The two-piece drive-shaft was replaced by a stock Studebaker light-duty proper-length truck shaft.

Stopping power was increased by a set of big finned '56 brakes. A lengthened pitman arm reduced steering to 3½ turns lock-to-lock. A Studebaker Land Cruiser rear stabilizer and Gabriel Adjustomatic shock absorbers completed the chassis modifications.

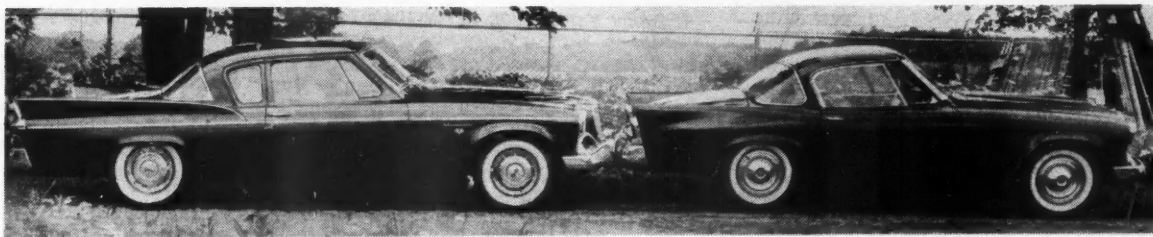
The body was sectioned 20 inches aft of the lock pillars, and the roof was shortened 16 inches and sectioned one inch above the drip rails. Doors were changed to '57 Golden Hawk type, and door windows cut to match the new roof outline.

Front-end sheet metal was changed to accommodate a Golden Hawk radiator,

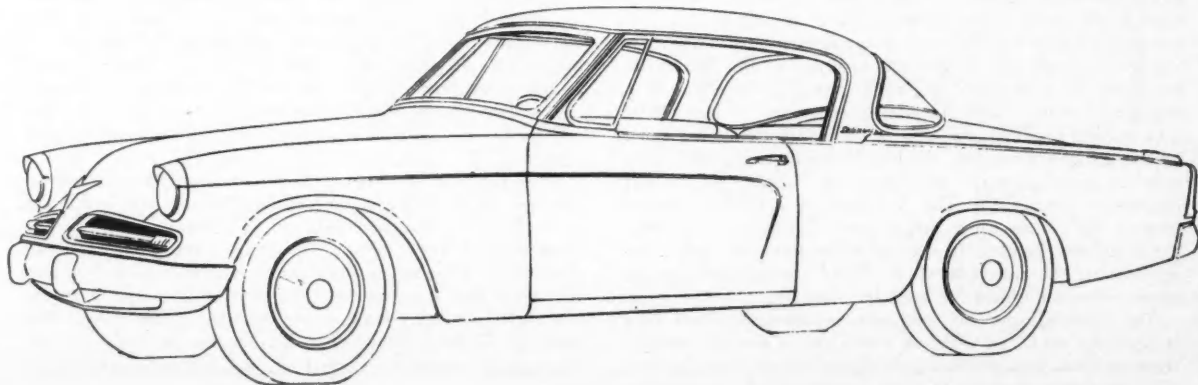
while rear fender fins were cut from '57 Studebaker sedan fins (drawing above).

As for the "beans"—a combination of boring to 3⅞-inch and a 3¼-inch late-model crank gave displacement of 289 cubic inches, same as the Golden Hawk. Later model cylinder heads were modified to take Corvette tulip valves. Light lifters, magnesium rocker arms and stiffer valve springs were also installed. Dual carbs, ⅜-grind cam and Mallory Magspark ignition completed the hopup.

After 20,000 miles, Temple is still amazed—and greatly pleased—at the improvement in ride, performance and handling characteristics.



COMPARED TO '57 STUDE HAWK (LEFT), MODIFIED '53 COUPE HAS SHORTER WHEELBASE, MORE SUBTLE FINS AND SLIMMER ROOF LINES.





Beef up your

SUSPENSION

for a more stable **RIDE**

by Chuck Daigh

For the articles on "chassis performance" in our "Getting More Go" series, we could think of no more fitting an author than Chuck Daigh. His broad experience in all types of competition—sportscar, stock car and racing machine—coupled with his driving skill and engineering know-how, qualify him as an authority on the subject. In this article—the first in a series of three—he discusses "ride," to be followed by pieces on "handling" and "brakes."—Editors

MOST OF US HAVE ADMIRED the maneuverability, precision and ease of handling of sportscars and race cars. It probably has never occurred to you that your own stock car may have the potential to handle almost as well.

Automobile chassis performance appears to be unfamiliar ground for most people. Few boys grow up without acquiring some basic understanding of what makes an engine run, and automobile engines enjoy a vast active interest that varies from Sunday afternoon tinkering to all-out dragsters and Bonneville machines. To these same people, however, the workings of a high-performance chassis remain quite vague, at best. Why your friend's sportscar should be a joy to drive and your car a bore is a bit of a mystery; the big difference is popularly conceded to be some magical relation of size. Actually it's a matter of chassis performance. The functions of a chassis may be broken down into three major areas: springing, or "ride"; handling; and braking. In each of these areas the basic characteristic of the American sedan is low performance (in the sense of being unsuited for hard, fast driving).

The potential your car may have is best exemplified by a competition stock car, which is a *race* car in the full sense of the term. The rules pertaining to chassis modifications in stock car racing state generally that any change which increases the

safety of the automobile is permissible. This is a rather ideal basis for modification, and results in an utterly transformed piece of machinery compared to what you and I drive on the street.

A racing stock car can be driven fast over a very poor surface without the body bounding around or the wheels losing contact with the road. It can be driven fast into, and out of, a corner without "pushing the front end" or losing the rear end (spinning out). It stops when you apply the brakes. It stops straight and quickly from high speed with predictable pedal travel and effort, and it will do so again just as soon as you may need to. These are not very profound statements, yet within them lies the key to overall chassis performance—good, bad or indifferent.

A chassis, unlike an engine, requires a man to be complete; it cannot function without constant control, and it is very much complicated by this fact. A man sits in a car with steering wheel and pedals before him. He and the chassis become a continuous cycle of action and reaction. Space age technology calls this a "control loop." What the man does with the wheel and pedals are inputs, and the reaction of the chassis is called response.

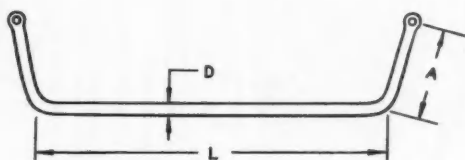
With this concept clearly in mind, a high-performance chassis can very simply be defined as one that responds to driver inputs *quickly, predictably* (or consistently), and *controllably*. If you think about it for a minute, this pretty thoroughly covers our description of the racing stock car. It is a description, however, that very, very few cars can fully meet. Any modification you can make that will improve one or more of the above characteristics *without detracting from the others* is bound to make your car a more effective machine, and definitely more fun to drive.

TO IMPROVE SPRINGING, a heavier stabilizer bar makes an ideal starting point. A stabilizer bar, of course, is designed to turn freely as the car goes up and down, but must twist when the car rolls, which has a limiting effect on this undesirable motion. This is the only springing modification that will improve cornering without affecting the straight-ahead ride of the car.

The general problem of roll, weight transfer, etc. deserves special attention. The characteristic high center of gravity of the big sedans we are discussing makes this a critical area. Roll is only one of the factors contributing to weight shift from the "inside" to the "outside" wheels in a turn. It should be clearly understood that even if your car had no suspension at all (so as to make roll impossible), the major portion of weight shift would still occur, due simply to centrifugal force acting through the center of gravity of the car and the turning force acting down at ground level. This weight shift, expressed as an overturning torque, is proportional to how hard you are going around the corner and the height of the center of gravity, and is something we're not likely to be able to do much about.

Roll, however, is a different matter. Any roll in a corner will add to the weight shift. This is easy to visualize: when the car rolls, the center of gravity tends to shift toward the "outside" wheels. In a car with independent front suspension, roll has the correlated reaction of leaning the front wheels out of the turn, which decreases their cornering power.

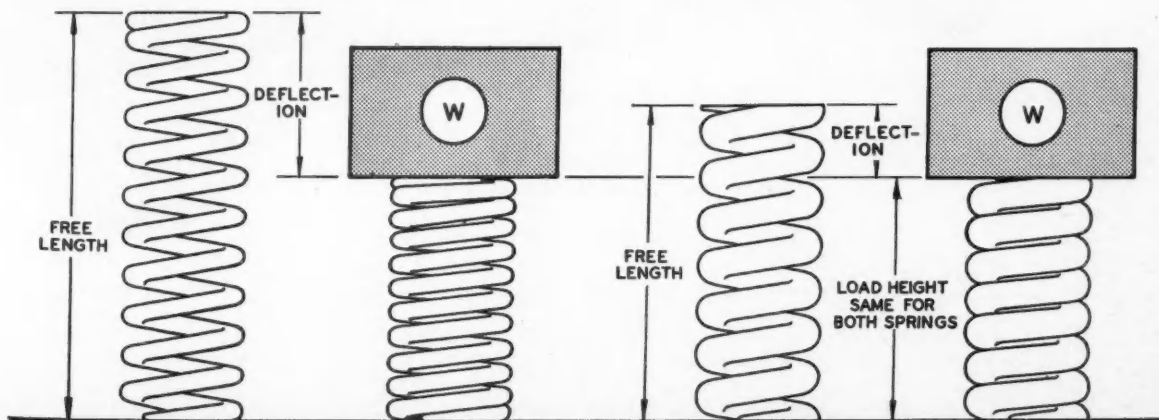
Note the accompanying drawing of a stabilizer bar. The



Dimensions are important to look for when selecting stiffer stabilizer bar. Increasing diameter (D) and retaining other dimensions stiffens bar, allows use of stock brackets and speeds up installation.

Little can be done to alter roll center (2), but stiffer suspension reduces front-wheel lean and limits shift of center of gravity (1).

Avoid heavy coils with narrow spacing as they will bottom as a solid mass under maximum load.

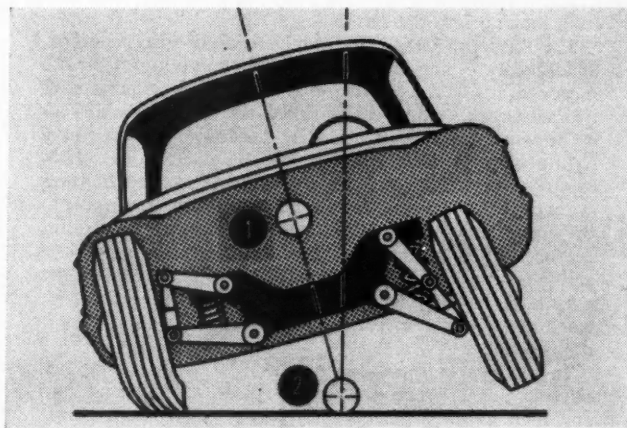


GETTING
MORE

GO

shorter length L is, the stiffer the bar. The shorter the arm length A is, the stiffer the bar, but this varies as the square of length A. (If A were four inches, the bar would be four times as stiff as if A were eight inches.) The diameter D is very critical, since the stiffness varies as the fourth power of D. (If D is increased only 32 per cent, the bar becomes three times as stiff!) Since you will probably want to retain the stock brackets and linkages, their location establishes that lengths L and A will remain stock. This leaves changes in stiffness to be accomplished by increasing the diameter. Choose the diameter carefully. An increase in stiffness of three times is about the minimum that is worth any expense or work, with a suggested maximum bar diameter for street use being approximately one inch.

A GENERAL WORD OF ADVICE pertaining to all types of chassis modifications: Before you even consider making a special part, invest a little ingenuity and a lot of patience in parts books
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PLYMOUTH'S

WE ARE ON THE THRESHOLD of a great age of speed. Rockets, missiles, jet planes and automobiles have posted an impressive list of speed records in the last few years—and this is just the beginning. Several designers are putting the finishing touches to cars capable of traveling well over 400 mph, and a British jet passenger plane project is aimed at making flights from New York to London in two hours. Despite agreements in the American automotive industry to de-emphasize speed, the designers, engineers and stylists cannot refrain from experimenting with high-speed passenger cars. No agreement in the world can stop men of vision from looking into the future.

The Plymouth-DeSoto-Valiant Division of Chrysler Corp., undoubtedly eyeing the Corvette, sole surviving American sportscar, has been working quietly with an experimental two-passenger sports vehicle called the XNR. Named for its designer, Virgil M. Exner, vice president and director of styling for Chrysler Corp., the low-slung streamlined body combines practical passenger comfort and normal highway use with features found on Grand Prix racing machines.

The XNR is not for trips to the supermarket, or hauling the necessities for weekend gardening or camping, but is designed as a single-purpose vehicle—to carry one or two persons and a minimum of luggage swiftly, safely and comfortably to their destination . . . and provide a lot of fun in the process.

In this age of speed, we hide our heads in the sand by offering 350-hp station wagons capable of 130 mph-plus, and then follow a "hands off speed" attitude by curtailling progress on cars that are *really* designed for such speeds.

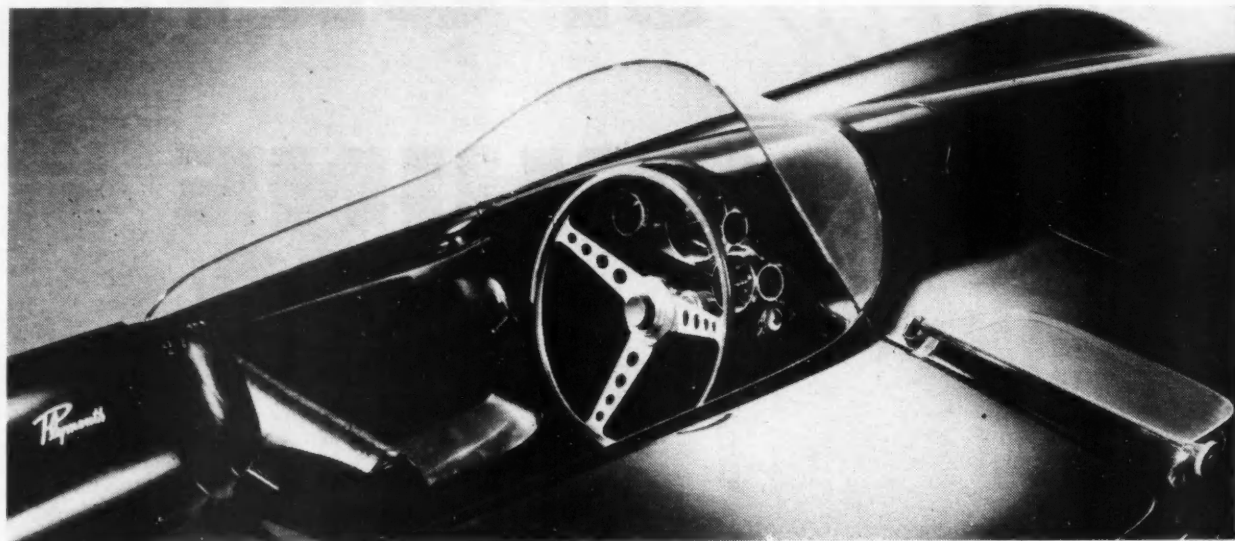
The "idea" car, which is what Chrysler likes to call the

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"Idea" **SPORTS MACHINE**



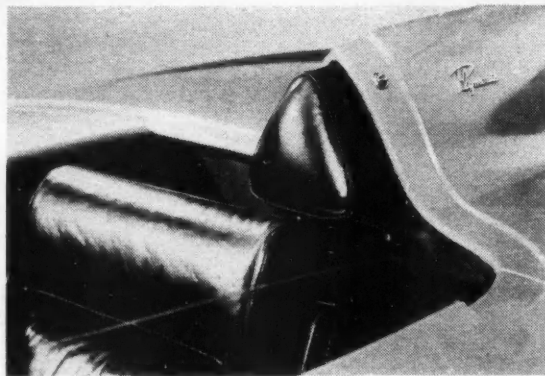


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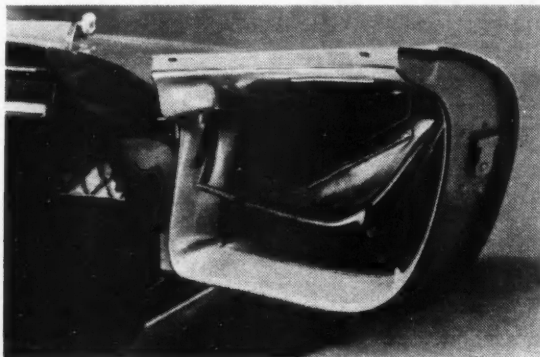
XNR, is powered by a six-cylinder "slanted" engine of the type currently used in other Chrysler products. The 30-degree tilt allows a very low hood line and consequent low center of gravity as the passenger seats can also be located closer to the ground. No figures are available on the modifications to this powerplant, but based on the performance of the small sixes in the Valiants at Daytona, the larger engine, with its stock displacement of 225 cubic inches and compression ratio of 8.5 to 1, rated at 145 hp, provides the potential for a modified version capable of well over 200 hp. Lavish use of lightweight alloys throughout to keep down overall weight has the same effect on performance as increasing horsepower. By providing fewer pounds for each horsepower, and reducing wind effect by streamlining, high speeds are possible with relatively small engines. Weight is one thing an automobile needs least of all, and the XNR relies on structural design rather than mass for the strength and stability necessary for high speed.

Some interesting features have been developed from racing car cockpits and blended into the styling of the XNR. Offset streamlining is similar to single-seat racing machines, with windshield, headrest fairing and cowl flare concentrated on the driver's side. Passenger seat, that can be covered with a metal tonneau, is four inches lower than the driver's, with wind protection provided by a folding "Brooklands"-type racing windscreen. Instrumentation, of course, is all concentrated before the driver and includes clock-dial-type tachometer, speedometer and engine instruments. Full leather bucket seats, padded headrest and floor-mounted stick shift complete a picture of a fast, functional, fun car.

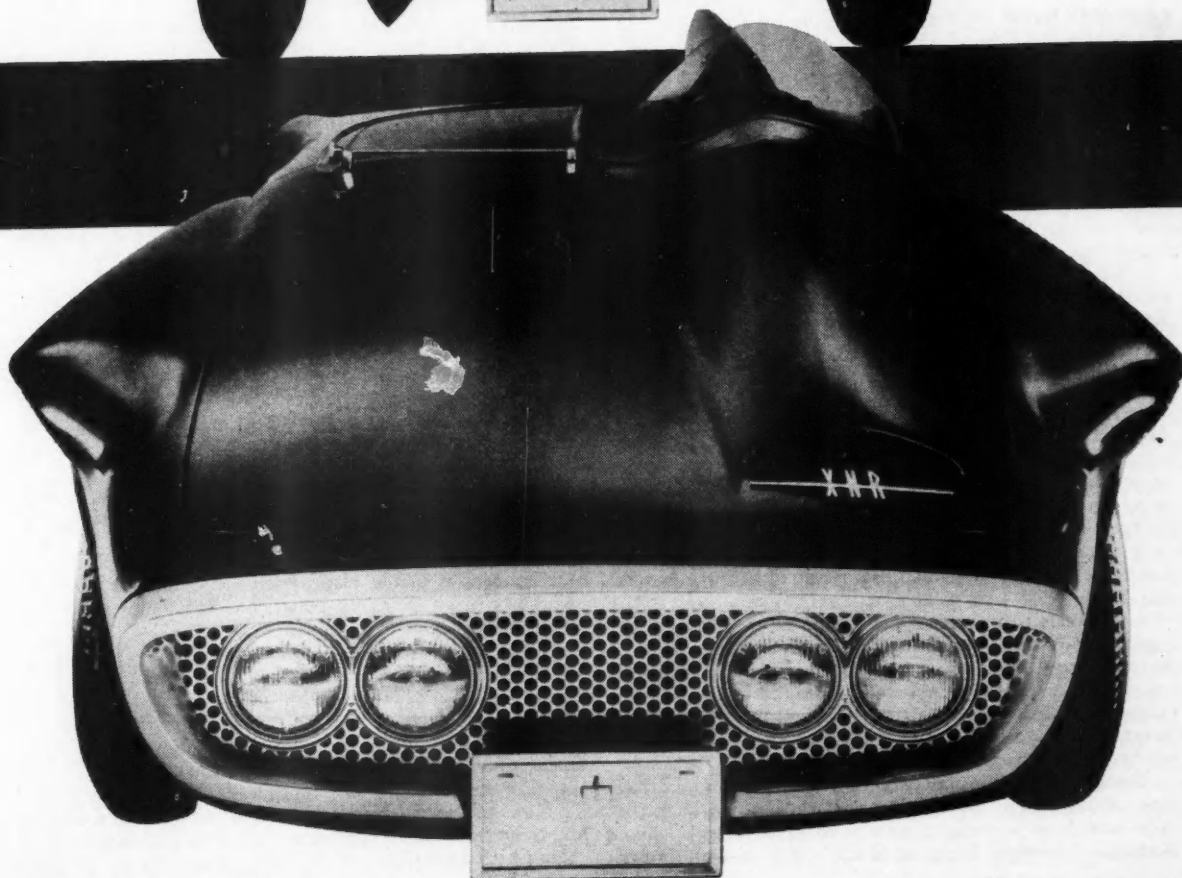
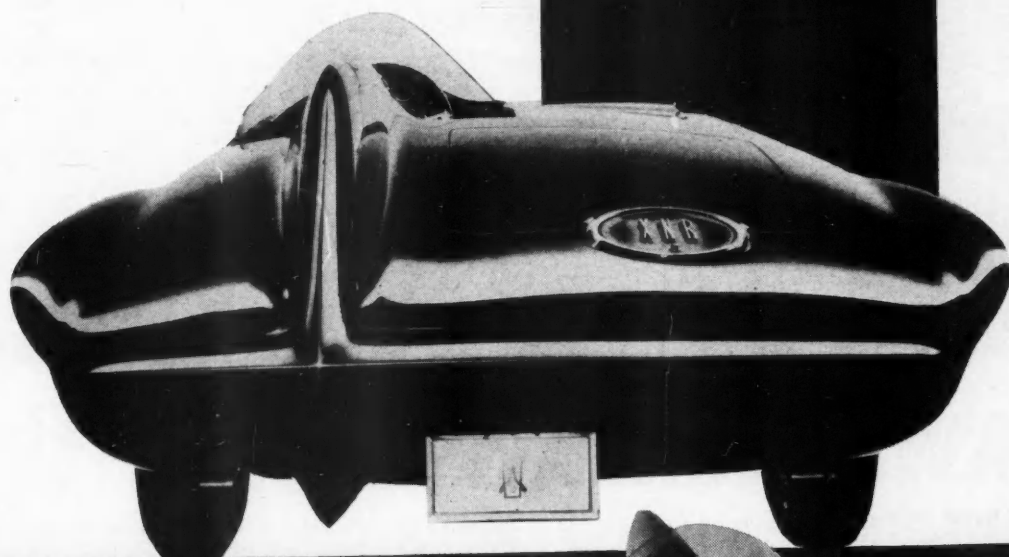
Bumpers on today's cars offer little in the way of crash



XNR cockpit blends race car function with driving comfort and eye appeal. Deep door cavities have zipper pockets for maps and small items, provide elbow room for the driver.



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Thanks to his seat belt



by Len Griffing

Hour Glass Field, Calif. A little too hot into the turn, sideways, a hooked wheel and OVER! The biggest threat is being thrown out, rolled over. You're relatively safe if you're strapped in the car.

YOU MAY NEVER HAVE as soul-searching an accident as the sportscar flip pictured above, but the same hazard is lurking behind your own family sedan . . .

Recently I gave roadside aid to a man whose car had rolled over. Going down a grade, he got his VW up to 70 mph and lost it on a turn. It flipped six times.

When it settled, his companion, who had stayed in the car, stepped out with a cut foot. The driver was thrown out and was critically injured as the direct result of smashing into the road and into the ditch that finally stopped him. The passenger area of the VW was undamaged.

It was obvious that the absence of seat belts made a bad accident for the car even worse for the driver. Yet, of the passing cars that stopped, the only two with belts were the writer's Sprite and the California Highway Patrolman's Dodge. Possibly this unnecessary suffering was a lesson—possibly not.

Each day our highways handle more passenger-miles than they did the preceding day, and the *number* of accidents increases even if the *rate* is going down. Unless the motorist keeps per-accident bodily injuries and fatalities low, he is going to have more and more legislation aimed toward doing it for him, probably by making him go slower. No one, including the legislators, wants this, and **MOTOR TREND** sees no reason why most motorists refuse to help themselves stay alive.

A few years back, experts and pseudo-experts debated the pros and cons of the seat belt as a life saver. Today there is no serious question. It's an accepted fact. In rare instances indeed will a seat belt be a liability. The fact is, the greatest danger a collision victim faces is being thrown out and being rolled over by his own or passing cars. That is, if he survives the impact.

There is a common misconception that seat belts are just fine for high-speed driving, but who needs them in town? You need belts in traffic as well as on open highway, since you face a greater danger of being rolled over if thrown

out and a greater danger of being hit! Low-speed impact is just as lethal as high-speed impact.

By actual measurement, when two cars crash head-on at only 27 mph the driver's hips are pushed forward by a force (the mean of the two drivers) equal to 38 G—38 times the driver's weight (Society of Automotive Engineers "Transactions," 1959). For the average driver, this means that about a quarter-second after he hits, he weighs 5000 pounds!

With 5000 pounds' worth of energy behind him, he slams pretty solidly into the instrument panel or into the steering post. This is the time during which injuries take place. To stay alive or to keep from being maimed it is imperative to stay in the seat. The best means discovered to date is that simple thing that maybe 10 per cent of the drivers have never heard of and 20 per cent think doesn't work. Of the other 70 per cent, 40 per cent figure they'll never have an accident, five per cent don't care, and the remainder either have one or think it's a good idea and someday real soon they'll get one. The figures are guesses, but we're talking about the safety belt—and we're talking about you.

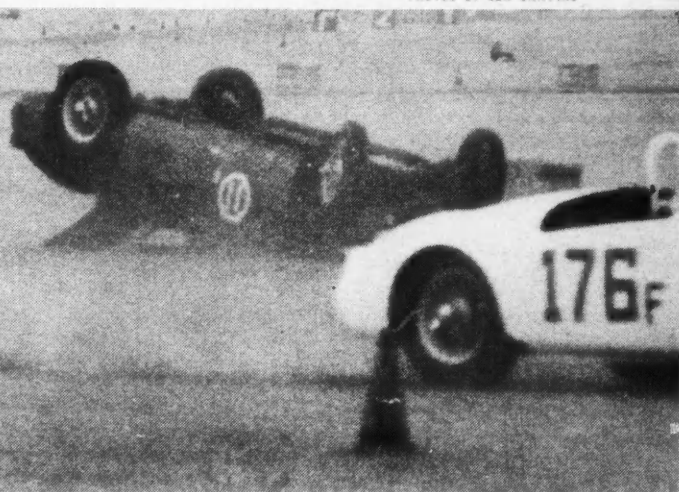
If you've ever had a serious accident, you're living on luck and you need a safety belt. If you've ever come close, you know that you need one, too. A good safety belt is like a good insurance policy—it works best if it's in effect while the accident is taking place. Everyone is familiar with the workings of an insurance policy, but how familiar are you with the workings of an actual accident?

When a car collides, almost immediately after impact it has lost all its velocity. The physical crumpling of the metal has absorbed the energy of the motion. Unless the driver is anchored so that the crumpling metal will absorb his energy too, he will continue forward toward the instrument panel at the speed the car was traveling prior to the crash, even though it has stopped.

Now he's in trouble. If the impact velocity was only 42 mph, he has a body momentum equal to approximately 24 times his own weight. At 94-mph impact velocity, his body

and roll bar...

PHOTOS BY LEN GRIFFING



THE DRIVER WALKED AWAY!

momentum is upped to about 66 G! (Momentum equals weight x speed *squared*, minus resisting forces.) Take your weight, multiply it by 66, and ask yourself if you'd like to slam into your car's instrument panel that hard.

Admittedly, at that speed you'd be taking your chances inside a Sherman tank, but most actual impacts occur at far lower velocity. Drivers get on the brakes and take the edge off even very high speeds before they hit. As an outside guess, most impact velocities are in the order of 20-30 mph, which is in the area of safety and protection with a good seat belt. It's the zone of in-town accidents.

Some belts are better than others. The best type would include a shoulder harness to hold the top part of the body; but, by the same token, the safest thing to do would be to stay home in the first place. These harnesses are highly recommended and sometimes mandatory for racing and special application. Jay H. Snow, who is a police officer assigned to the Traffic Education Section of the Los Angeles Police Dept., showed me a belt made to their specs by AutoCrat. It is a Sam Browne-type lap and shoulder harness with metal-to-webbing buckle designed for ease of use, mobility while in uniform, and maximum crash protection (5000-pound pull). (California's Highway Patrol cars use a lap-type belt made to their own standards mostly by Tulareloft.) For passenger cars a reasonable compromise that anyone can afford, anyone can fit into, and everyone can and should use easily is the simple lap-type seat belt.

Many states agree, and a few are putting legislation on the books to back up their opinion. California, for example, in sections 27,300, 27,301 and 27,302 of a new law defines what a seat belt must do, how well it must do it, and makes it a misdemeanor for a retailer to sell or to stock for sale a belt that does not meet minimum (3000-pound) requirements. Most consumers don't know about this, and probably a few retailers don't either.

In New York, State Senator Speno just recently introduced a bill which would require every vehicle sold in the

state after June 30, 1961, to be equipped with a seat belt for each seat. He said, "Controlled experiments conducted by crash-injury research laboratories have proven that seat belts reduce the likelihood of injury by 60 per cent and the likelihood of death by 50 per cent."

(One of these studies was conducted by Cornell University Crash Injury Research, in cooperation with North Carolina law-enforcement agencies, over the past six years. It is being intensified for the next six months with detailed reports on each and every highway bodily injury.)

On the national level, testimony in hearings before the United States House of Representatives in Washington generally agrees with the position taken by John O. Moore, Director of Cornell's Crash Injury Research. The sub-committee's final report stated, "Seat belts, properly manufactured and installed, are a valuable safety device and careful consideration for their use should be given by the motoring public."

MOTOR TREND became curious as to a "properly manufactured" seat belt, since there are at least three different minimum requirements. Federal (General Service Administration) specifications require a 5000-pound loop pull before the belt "gives up." The Society of Automotive Engineers requirements are 4000 pounds, while C.A.A. (now Federal Aviation Authority) specs are only 3000 pounds. It's obvious that three "approved" belts, purchased over any counter as approved, may offer a very different degree of protection for the wearer.

MOTOR TREND bought 14 seat belts "over the counter," as any reader would, and rented a Dillon dynamometer. Belts were attached according to S.A.E. (Society of Automotive Engineers) recommended procedure. Each belt was installed with its own hardware, according to the directions on or in the box, and then pulled against a semi-circular block that conforms to the contours of the human body. The tension the belt withstood before it "gave up" registered on a scale with a telltale needle.

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VOLKSWAGEN into

BOATSWAGEN

PLOWING THROUGH THE CHOPPY WATER WITH LITTLE ROLL, THE FLAT-BOTTOMED "FLOATING BEETLE" DOES FIVE KNOTS—WHILE KICKING UP 30 KNOTS' WORTH OF SPRAY. STEERING IS DONE BY TURNING FRONT WHEELS.

PHOTO STORY BY STEVE SIMPSON

A CROWD OF SEVERAL THOUSANDS lined the shores of Sydney's Kogarah Bay for the finals of the recent Australian National Speedboat Championships. Twenty-five knots of wind were blowing, and a husky chop on the water caused postponement of all high-speed events until late afternoon. Meanwhile, a few slow ocean-going cruiser races were being held—and the crowd, eager for thrills 'n' spills, was fast growing restless.

Suddenly a roar went up!

Around the jetty past the judges' box a squat, odd-shaped thing came swimming, chunking its way merrily through two-foot-high waves and raising a welter of foam behind.

"Great Scott!" said somebody. "It's a Volkswagen!"

A Sydney VW distributor had stolen the show completely with a zany publicity stunt that kept the crowd laughing for hours!

For most of the afternoon the little gray car swam up and down, in and out, its driver giving

painstakingly correct "stop" and "turn" signals out of his open window before executing each maneuver, keeping the crowd amazed and amused.

Though not originally designed as an amphibian, the VW lent itself quite easily to ocean travel. Drain holes in the undertray were quickly fitted with plugs. Control cables were already sealed in the waterproof central tube. The regular rubber-stripping around the doors proved 100 per cent leakproof; a greasy compound stopped up both bottom hinges.

The engine was watersealed for semi-submerged operation by raising some components and using plastic coating on others. A three-bladed 10-inch screw was fitted to a bronze shaft driven by a universal from the generator drive wheel at the rear of the crankshaft.

Though the car is now on the showroom floor, a promotional tour is planned—and the floating beetle can be expected to do its duty come "sell or high water."



Back into the surf plunges the nautical VW, to the delight of the astonished onlookers. It made half-mile journey across the harbor eight times.

Sea-going modifications include "snorkel" exhausts, extended carburetor air intake and raised distributor position. Ignition components are waterproofed with heavy plastic coating. Line shows approximate waterline when laden car is under water. The three-bladed screw is attached to generator driveshaft through a universal joint.





"I RODE WITH THE

"We were outbound in the speed lane, right next to the divider. One look and I figured the guy—inbound—was going to jump. I wheeled over into No. 2 lane as he came missiling over the barrier. But the driver behind us wasn't as perceptive, nor as attuned to the freeway. The jumper took the barrier, somersaulted, landed on its side. The follower rammed him head-on . . ."

by James Joseph

IT'S GOING TO BE A WILD ONE tonight . . . on the freeways," officer Don Wheatley said, adjusting his crash helmet. "Real hell-bent and woolly. Ride this one with us and you'll figure those freeway drivers as we do . . . as idiots . . ."

"Or worse," winced his partner, 33-year-old "Mac" McMillen.

Seven high-speed hours later I was figuring things like a freeway cop. Those lane-changers were idiots, for sure.

In the eerie red glare of road flares, I'd seen a cop heave his supper . . . as the crash-victim's arm pulled loose from its socket. I'd watched a high-speed gambler come close to crap-



ILLUSTRATION BY CARLO DEMAND

FREEWAY PATROL!"

ping out on a curve. Then there was the guy soloing it at 70 mph, his seatmate a half-killed fifth of whiskey. Worst was the shapeless black pile of ashes beside the burned-out Buick. Moments before those ashes had been a man. Or maybe, as Wheatley had said, an idiot.

The fools and the foolish (and also the innocent) die hard along the nation's turnpikes, toll roads and freeways.

I knew the statistics, of course: that these, America's "safest" roads, had turned killers. And that cruising them was a new breed of super-cop: the freeway patrolman.

But wrangling a ride wasn't easy. To do it—to ride the

morning watch, the midnight-to-dawn patrol along Los Angeles' 50 divided miles of freeway—I had literally to sign away my life. The ritual—a legal nicety calculated to absolve the city from liability should I die violently—began a half-hour before midnight in Los Angeles' spanking new Police Building.

"You sign here," the desk sergeant indicated, handing me the release form. "Whereas," the waiver began, "the undersigned has made voluntary request to ride as observer in a police vehicle . . . when such vehicle is operated by members of the Department in the active performance of their duties

FREEWAY PATROL

continued

... be it understood that the undersigned waives all claims against the Los Angeles Police Department ... in behalf of himself, his estate and heirs ...

"You volunteered for this?" officer Wheatley asked incredulously, running a hand through his red hair.

I nodded. It had taken a dozen phone calls to wrangle an official OK. Not an invitation, mind you. Just grudging permission. And now I was to be the second civilian to ride with the freeway's morning watch. "MOTOR TREND readers," I'd told the lieutenant, "drive plenty of miles on the nation's freeways and turnpikes. They're guys who know cars ... and roads, too. We want to put them, literally, in a freeway interceptor ... let them see things first-hand."

McMillen was already revving the Olds 88's engine as Wheatley briefed me. "This being Saturday night, it'll be no picnic out there," Wheatley warned, "especially after 2 A.M., when the bars let out."

I nodded. I'd heard about the freeway's "weavers," the guys hung-over and driving hell-bent.

"Now," Wheatley said slowly, "when we red-light a violator, don't just sit in the squad car while we're ticketing the guy. Get clear of the car ... and as far off the shoulder as you can. Never can tell when some idiot, half asleep, will swerve from the straight and narrow, and plow into the interceptor. The car we can afford to lose ... but not you."

I grinned and thanked him ... for myself, my wife and my six-year-old Nancy.

"Another thing," he continued, "when you get out, face traffic. Never take your eyes off those oncoming lights. Think of them and their drivers as we do ... as mortal enemies. They're doing 60 ... and better, those drivers. At night they can't see you. But you can see them. If you spot a guy starting to fishtail or broadside, stand right where you are. Don't panic. Don't start running until you're sure he's drawing a bead on you. He can change directions 10 times before he's on you. You're safer standing pat ... second-guessing him ... until you've got him figured."

"One thing more. When we take off on a high-speed romp, move over dead center of the back seat ... to equalize your weight. You'd be surprised how 160 pounds or so, huddled in one corner, feels to the guy wrestling the wheel ... when we're making 110 mph or better."

It was 11:45 P.M. when McMillen, whose "drive night" it was, booted the pedal, cleared through Police Communications and got going. I was riding one of two interceptors—both 1957 Olds 88s—which, midnight to dawn, patrol Los Angeles' sprawling freeway system. At other hours, when traffic is snail-paced, cycle cops work the three (and sometimes four) lanes going and coming. The big cars simply can't get through the rush hour hustle. With so much freeway to patrol, the cars work by intuition.

"We don't cruise a beat ... just wherever we think there's trouble, or something pending," Wheatley explained above the radio's chatter. "But we're tied by radio. 2T98—the other freeway car—is working the Hollywood sector. We'll head out east, keep things covered there."

We'd scarcely hit the freeway when Wheatley gestured, Lane 2 ... blue Chevy '55 ... he's clipping."

"Mac" heavy-footed the pedal. The big Olds—rigged with sway bars front and rear, and mounting four barrels, but otherwise stock-engined—leaped into the night. Up front, Mac and Don were girdled in—cinched to their seats, their noggins protected by crash helmets. I huddled the back seat,

my fingers hugging foam rubber and sweating as the needle nudged 80 ... and kept climbing.

"Lookit him!" Mac gasped.

Up ahead the Chevy's rear was whiplashing as its driver tried to make the curve. Over his head in speed, the guy was fighting the wheel. Fighting it and sort of rolling the dice. If those ivories came up sevens he was going to crap out ... for sure.

"Gambler's luck," Don wheezed, as the guy managed to hold the road. "But the odds favor the house ... the morgue."

You'd think he'd have slowed. But luck, apparently, was turning his pedal foot to lead.

The interceptor's needle edged 85 ... and flicked to 90.

"No red lights ... no sirens," Wheatley explained as we missed centerlane. "Show a light and you'd scramble traffic. We just barrel through ... until we're on the guy's tail."

We were on it now.

"He's clockin' 85," Mac rasped.

"OK," Wheatley confirmed, "tag him."

Wheatley worked the red spotlight on his side, angling it backwards, toward following traffic ... warning drivers to ease their pedals. Meantime, Mac high-shouldered the violator with his whites and clinched things with his top-mounted red spot.

The Chevy's driver had literally seen the light. Now he eased his brakes and slowly, cautiously, worked toward the shoulder, the big freeway car running interference.

Mac got out the driver's side while his partner covered the rear. On the freeway, cars were lethal as bullets. Still, you couldn't discount the possibility of a guy pulling a gun. But the violator pulled nothing more than his driver's license.

Five minutes and the guy was ticketed and on his way.

"Freeway's a kind of automotive melting pot," Mac said above the police channel's jabbering. "Work the districts and you're dealing mostly with people who live in the neighborhood. Tough neighborhood, and you play everybody tough. Good neighborhood and you can relax a bit. But the freeways draw from them all ... draw plenty of passers-through, too. So you figure everybody tough ... until they prove themselves otherwise."

During the hour we'd worked the beat, covering maybe 40 miles (200 miles was par for a night), we'd snaked through thinning traffic at speeds up to 90.

"You get used to it," Mac said over his shoulder.

Huddled in the back seat, though, I wasn't. Every time Mac wheeled centerlane and back again, I was mentally twisting the wheel. Coming in close to a guy's tail, I was braking right with him. McMillen, I'd about decided, could handle a Grand Prix car ... and with no more practice than what he got five nights a week.

No, Mac said, not many guys outran the big interceptors. Wound up tight, they could hit 120 mph and did, on plenty of occasions. The two freeway cars were prima donnas. When they rolled in off the watch, mechanics swarmed over them. The merest nick on a tread called for a brand-new replacement. Oil changes were almost as frequent. Wheels and front ends were re-balanced and re-aligned every week or so.

"It's not just that we've got to outrun some of these guys," Wheatley was saying, "we've got to out-dodge them, too."

Only once, though, had Wheatley and his partner come close to getting it. And that when a guy came over the divider. Wheatley, at the wheel, had spotted the jumper a quarter-mile ahead, as he started his skid.

"I was outbound in the speed lane, right next to the divider," Don gestured. "One look and I figured the guy—inbound—was going to jump. I wheeled over into No. 2 lane as he came missiling over the barrier."

But a driver following the interceptor wasn't as perceptive, nor as attuned to the freeway. The jumper took the barrier, somersaulted and landed on its side. The follower rammed him head-on.

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MT'S IMPORTED CAR SECTION

Why Buy An IMPORTED CAR?

Our guide in assembling this section was simply to answer a question that seems to pop up regularly, "Why buy an imported car?"

The best answer we can give is that variety is the spice of imports. Interpreted, this means that the primary reason for buying an imported car is to get something that is not available from Detroit—something unusual in aspect, engineering or styling.

In the individual car descriptions on the following pages we have concentrated on the one model that distinguishes that make or is the most exciting produced by a given manufacturer.

Space limitations have kept us from listing every make imported to the U.S. so we have kept to those most unusual, important and interesting.

We believe that the following pages will prove a point that we have long held—whether you're interested in performance, fun, economy or prestige—the overseas selection is still unchallenged by Detroit.

— The Editors



MT

MT'S IMPORTED CAR SECTION

A.C. ACE BRISTOL RDSTR. (\$5699), Gr. Brit.

Beautifully fitted aluminum body, deep-contoured bucket seats for 2, adjustable steering column, 1700-lb. dry weight. Rigid tubular chassis, 4-wheel independent suspension with swinging rear axles and transverse leaf springs. Close-ratio 4-speed gearbox. Bristol engine is 6-cyl. ohv developing 125 bhp. Optional A.C. engine is 90-hp, 6-cyl. oh cam. Both displace 2 liters. Bristol engine good for 115 mph; A.C. engine does 100 mph. Superb roadholding makes it outstanding competition car. Dealers limited. Other models: A.C. Ace rdstr. (\$4799), Aceca cpe. (\$5699), Aceca Bristol cpe. (\$6599).

ALFA ROMEO GIULIETTA SPIDER CONV. (\$3469), Italy

Carefully detailed 2-seater with roll-up windows. Luxury sports-tourer styled in modern Italian idiom. Coil springs all around, large finned brakes. Spider wheelbase—87 ins.; Sprint cpe.—94. Giuliettas have 4-speed, all-synchro boxes. Engine is 1290cc, 4-cyl. twin-cam, 91 hp at 6000 rpm. (Super Spider develops 103 hp.) Spider does 103 mph, will get over 30 mpg. Super Spider will do 118 mph. Parts availability good. Other models: Super Spider (\$3882), Sprint cpe. (\$3901), Veloce cpe. (\$4292).

ASTON MARTIN DB-4 CPE. (\$9870), Gr. Brit.

Fastback styling seats 4 in luxury leather seats with extra luggage space. Aluminum body on tubular steel framework. 98-in. wheelbase, independent wishbone front suspension, live rear axle, all-synchro 4-speed box, disc brakes. Twin ohc 6-cyl. engine displaces 3670cc, develops 240 hp at 6000 rpm. 0-100 mph and stop in less than 30 secs. Cruises effortlessly at 80-100 mph, top speed to 150. Open road handling is unsurpassed. Service limited but dealers have skilled mechanics and Aston factory reps in U.S. cater to owners. Other models: DB-4 GT cpe. (\$12,500).

AUSTIN A-40 2-DR. SED. (\$1795), Gr. Brit.

Smart, Italian-styled 4-seater with rear door for station wagon utility on 83½-in. wheelbase. 4-speed gearbox, independent front suspension, leaf springs at rear. Engine is BMC's A-type, 4-cyl., 948cc, 34 hp at 4750 rpm. It cruises at 60 mph, will give up to 40 mpg. Parts availability and service among the very best through British Motor Corporation's vast dealer network. Other models: A-55 Mk. II 4-dr. sed. — 1489cc, 53-hp engine (\$2198).

AUSTIN-HEALEY SPRITE (\$1795), Gr. Brit.

Space for 2 in bucket seats, ample legroom, limited luggage area. Functional roadster styling. 80-in. wheelbase, unit body, independent front suspension, 4-speed gearbox (close-ratios available for competition). Ohv, 4-cyl., 948cc engine (BMC A-type) develops 48 bhp at 5000 rpm. Extremely sturdy and well suited for high revving. Lively acceleration, top speed over 85 mph, excellent roadholding; has become popular production road-racing machine. Parts and service very good although it requires minimal service. An outstanding low-budget sportscar buy. Only model available.

AUSTIN-HEALEY 3000 RDSTR. (\$3051), Gr. Brit.

Cleanly styled with good weather protection, comfortable bucket seats for 2 with kiddie seats at rear, has good luggage space for sportscar. Rugged chassis, 92-in. wheelbase, 4-speed box, overdrive optional, disc brakes in front. 6-cyl., 2912cc, ohv engine develops 130 hp at 4750 rpm. Good low-speed torque permits 4th gear driving in traffic. Top speed 115 mph; 0-60 in 9.8 secs., standing ¼-mile in 17.1 secs., excellent all-around high performance sportscar. Service and parts through extensive BMC dealer network; maintenance costs relatively low. Other models: Deluxe 4-seater (\$3371) includes heater, overdrive, wire wheels.

AUTO UNION 1000 SPORT CPE. (\$3925), Germany

Smartly styled coupe resembles early 2-passenger Thunderbird scaled down. Good luggage space, wrap-around windshield, 4-speed, all-synchro gearbox. 3-cyl. 2-cycle engine develops 62 hp at 4500 rpm from 980cc. Front-wheel drive, rack-and-pinion steering give superb handling while roadholding is first-rate. Top speed over 90 mph and will deliver about 25 mpg. Parts and service through Studebaker-Packard dealers. Other models: 4-dr. sed. (\$2526), 2-dr. hardtop cpe. (\$2301).

BERKELEY RDSTR. (\$1595), Gr. Brit.

Seats 2 on bench close to floor. Luggage space limited, interior trim spartan. Fiberglass body, unit construction, coil springs all around, front-wheel drive, 3-speed motorcycle gearbox with floor lever. Aircooled 2-cyl. 2-cycle 328cc motorcycle engine develops 18 hp (3-cyl., 492cc, 30-hp engine optional). Lightweight construction gives lively acceleration even with small engine, top speed over 60, cornering ability good. Fuel economy 35-60 mpg. Best use is around city as ride and seating not conducive to long-trip comfort. Parts and service limited to dealers in larger cities. Other models: 492cc rdstr. (\$1745).

BMW 700 SPORT CPE. (\$1898), Germany

2-seater (occasional rear seats) attractively styled by Italian designer Michelotti. Good luggage space under front hood. All-independent suspension derived from 600 model. Curb weight is 1610 lbs., 12-in. wheels are used, standard equipment includes heater and windshield washer. Engine is rear-mounted flat aircooled twin, 35 hp at 5000 rpm, 696cc displacement. Top speed is 75 mph, riding qualities are said to be among the best in the small car field. It will deliver up to 42 mpg, should exceed 30 mpg in city driving. Repairs should prove inexpensive. Parts and service limited to major city dealer network. Only model available in U.S.

BORGWARD ISABELLA TS CPE. (\$3750), Germany

Graceful 2-passenger coupe has occasional seats in rear. Performance from 75-hp 1493cc engine is lively with excellent handling partly due to all-independent suspension (rear swing

axles). 4-speed gearbox is all synchro. Outstanding is attention to interior detail including reclining seats. Wheelbase is 102½ ins. Top speed near 100 mph, fuel economy 25 mpg plus. Car has reputation for reliability while good parts and service network takes care of owners. Other models: Isabella (60-hp) 2-dr. sed. (\$2495), station wagon (\$2685), 2-dr. TS sed. (\$2845).

CITROEN DS-19 4-DR. SED. (\$3245), France

Radically styled 6-pass. sedan on 123-in. wheelbase. Minimum front/rear body overhang yet good luggage and passenger space. Front-wheel drive, hydraulically operated self-leveling air-oil suspension system, power brakes, power steering, automatic clutch. Engine is 4-cyl. ohv, 1911cc, 75 hp, proven design. Cornering ability unsurpassed, suspension soaks up roughest bumps. Top speed over 90 mph. Generally trouble-free but hydraulic systems require expert service. Other models: ID-Luxe 4-dr. sed. (\$2545), ID-19 4-dr. sed. (\$2695).

average fuel consumption. First shown at N.Y. Int'l Auto Show last year, distributorship in N.Y. is now firmly established. Seats 2, good roadability. Horsepower is rated at a mere 22 but claims of 70 mph top and 50 mph cruising speed are made. Only model available.

DAIMLER SP-250 RDSTR. (\$3702), Gr. Brit.

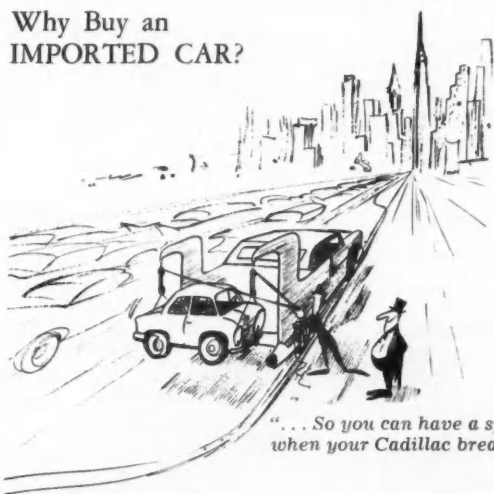
An excellently "alive" V8-powered roadster which turns 140 bhp at 5800 rpm using 70-degree inclined in-block valves, hemispherical combustion chambers, 2548cc (154.2 cu. ins.). Acceleration is a real joy, seating is for 2 with kiddie seats in rear. Proximity to controls is very comfortable, but ride leaves much to be desired, as does steering which is extremely heavy. Body is fiberglass, luggage space at rear is better than adequate, roll-up windows and a good heater make this a good all-weather car as well as a muscular treat to handle. Other models, announced but not confirmed, include a new sedan and possibly a 4-seater convertible.

Interior is designed for 4 while luggage space is good and appointments are deluxe. Station wagon is well-thought-out design and sports roadster is only one in price class to offer occasional rear seating. Other models: 4-dr. station wagon (\$1818), sports rdstr. (\$1996).

D.B. (DEUTSCH BONNET) GT CPE. (\$3195), France

A fiberglass body covers a frame that is, for all practical purposes, a big 6-inch tube. A 2-cylinder aircooled engine (850cc, 56 bhp) drives through the front wheels. Front suspension is independent by transverse leaf spring and single lower arms to locate axle and take torque. Rear suspension is independent with torsion bars and single trailing arms. Brakes are drum-type hydraulics. This is the competition version of the Panhard, and with its light weight (about 1400 lbs.) performance and handling are quite good, even with small engine. Seats 2 comfortably, has room for lots of luggage, cruises comfortably at highest legal speeds. Only model available.

Why Buy an IMPORTED CAR?



"... So you can have a spare when your Cadillac breaks down ..."

DAF-600 2-DR. SED. (\$1599), Holland

Perhaps the newest import to these shores features a fully automatic transmission, called "Variomatic" because the system provides an infinite number of ratios from first gear to overdrive. Wheelbase: 81 ins., overall length 142 ins., weight is a mere 1390 lbs., which helps to achieve a 40-mpg

DATSUN BLUEBIRD 4-DR. SED. (\$1616), Japan

With their line redesigned for the U.S. market, Datsun now offers independent front suspension, 48-hp engine displacing 1189cc, 77 mph top speed. Rather heavy (1916 lbs.) for its 90-in. wheelbase, it is extremely sturdy and still delivers up 38 mpg.

DKW-750 2-DR. SED. (\$1665), Germany

Smartly styled, will accommodate 4 passengers in relative comfort. Padded dash and recessed wheel are safety features. Unusually large luggage compartment for small car. All-independent suspension via torsion bars, front-wheel drive, all-synchro 4-speed box with column control (Saxomat electromagnetic clutch optional). 3-cyl. 2-cycle engine develops 34 bhp at 4300 rpm. Amazing roadholding ability; top and cruising speeds are identical—just over 80 mph. Brakes are excellent. Parts and service will be good—same dealers as Auto Union. Only model available.

FACELLIA SPORTS CONV. (\$N.A.), France

Luxury sports-tourer for 2 plus luggage space. With design scaled down from parent Facel Vega, lines are clean with finish and appointments of the highest order. Engine is twin-overhead-cam unit displacing 1647cc, developing 115 hp at 6400 rpm. Gearbox is 4-speed, brakes are disc, handling and roadholding are said to be very sporting. Price is expected to be just under \$5000. Only model available.

continued

MT

MT'S IMPORTED CAR SECTION

FERRARI 250 GT CPE. (\$12,600), Italy

Bucket seats for 2 in expensive luxury; luggage accommodations behind seat, trunk area limited. Beautiful Farina-designed body is in steel, more practical than some aluminum models. All-synchro 4-speed gearbox, V-12 engine, 2953cc, develops 240 bhp at 7000 rpm. Features include twin overhead cams, 3 Weber carburetors, 8.5 to 1 compression. Performance is among the best in the world—outstanding acceleration, top speed from 125 to 160 mph depending upon optional differential ratios. It can be raced with no more preparation than changing plugs. Roadholding and brakes are fantastically good. Although Ferrari components are sturdy, repairs can be expensive and require specialist. Few dealers in U.S. Other models: California conv. (\$12,600), 410 SuperAmerica cpe.—400 hp, 4962cc engine (\$N.A.)

transverse leaf spring; rear independent, with coil springs and wishbone. Probably biggest advantages are that original cost and fuel consumption are very low, and parts and service facilities are numerous. Other models (600 series): 2-dr. sed. (\$1398), 2-dr. sunroof (\$1460), Jollywagon (\$1906).

FIAT 1500 SPYDER RDSTR. (\$3730), Italy

Hotter than the earlier Fiat 1200, the engine in this solidly built 2-seat rdstr. (roll-up windows) is by OSCA. Overall length, 158.7 ins., width is 58.8. 4-cyl. 2 ohc, compression ratio is 8.6:1, 90 bhp. 4-speed transmission is synchro on first 3 gears, top speed is 105 mph. Suspension, front: unequal A arms, coil springs; rear, transverse leaf, telescopic shocks all around. Steering is worm and roller. Improved electrical system includes a

sion ratio, puts out 41.5 bhp at 5500 rpm, and has a top speed of 80 mph. Seating, comfort and ride are not major items of luxury, but for a quick and efficient town run-about this little machine has few peers. Only model available.

FORD ANGLIA 2-DR. SED. (\$1583), Gr. Brit.

The Anglia you buy today is a far cry from the Anglia you bought a year ago. Short-stroke engine is smaller (reduced from 1172cc to 997) and power is upped (from 36 hp to 39 hp). In addition, there's now a 4-speed gearbox and streamlining (Ford says it adds 5 mpg of fuel). 4-passenger interior and working components are simple, yet adequate. Front suspension is independent, stiffened, fitted with stabilizer bar. Rear suspension is conventional live axle. The Anglia has all the handling qualities of a sporting car, fuel consumption of an economy car, and the service facilities of a Ford easily at hand. Other models: Prefect 4-dr. sed. (\$1661), Escort 2-dr. station wagon (\$1651).

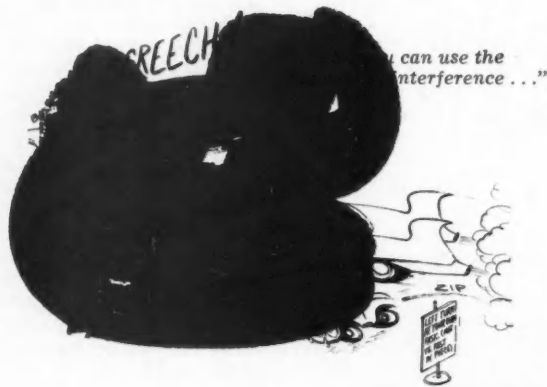
HANSA TIGER SPORT CPE. (\$2568), Germany

Formerly called the Goliath, this 2-seater with occasional rear seats is finished with typical German precision. Flat-opposed 4-cyl. engine develops 55 hp from 1093cc, drives through front wheels. Ride, handling and cornering ability are excellent. Suspension is all-independent. Top speed in excess of 80 mph with cruising 60-65. Good fuel economy. Dealer network being expanded nationally. Other models: Hansa 2-dr. sed. (\$1949), conv. (\$2126), 2-dr. station wagon (\$2095), Empress 2-dr. sport sed. (\$2275).

HILLMAN MINX 4-DR. SPECIAL SED. AUTO TRANS. (\$1994), Gr. Brit.

Popular 4-5 passenger economy sedan is now only car in U.S. with full automatic transmission (optional \$199) for under \$2000. Year by year improvements for '60 include more glass area, better seating, larger brakes, floor lever for 4-speed gearbox with column control optional on other models. Engine is ohv, 4-cyl., 1494cc, develops 56.5 hp. Acceleration is lively, handling good, top speed in

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FIAT 600 MULTIPLA 4-DR. STATION WAGON (\$1658), Italy

Combines the best features of a small van-station wagon with an economy automobile. Room for 4 with luggage, or a driver with a good-size cargo. Low power (633cc, 22 bhp) combined with low gearing (11.5 mph/1000 rpm) limits cruising speed of 1600-lb. car, especially on upgrades. Handling is very good, proven on twisty, narrow Italian roads where 600s make as good time as big cars. Front suspension independent by

230-watt generator, 40 amp., 12-volt battery. Nardi racing steering wheel and Pirelli racing-type tires are standard. Quick handling, slightly stiff ride. Other models: Same body, 1200cc pushrod engine (\$2812).

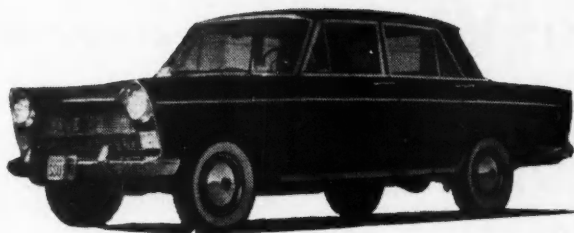
FIAT 750 ABARTH 2-DR. SED. (\$2206), Italy

No exterior indication of change from the "stock" Fiat 600, this steel-bodied Fiat car packs 9 to 1 compres-

drivereport: Wayne Thoms

FIAT 2100

LUXURY COMPACT

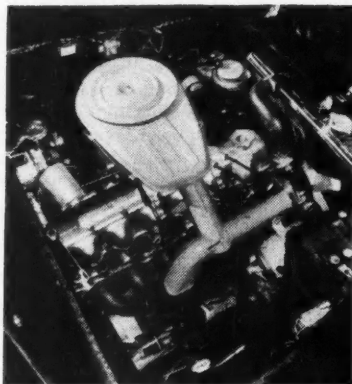


Trim 4-door sedan on 104-in. wheelbase is Italian styled to U.S. tastes. Careful attention to body fittings and trim is sign of quality workmanship throughout.

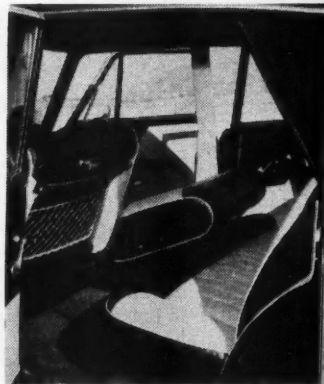
SO THIS IS A LUXURY COMPACT," murmured one observer as he eyed the Fiat 2100. "Plenty good!"—which neatly sums up our opinions of Fiat's newest four-door sedan.

Styled in Italian functional modern, the crisp lines are set off with a minimum of chrome. Most impressive is the detailing throughout with close body tolerances that indicate a high regard for quality control. This is a car that does everything well. During a long tour at high speed, handling was superb while previous tests had shown that oversize drum brakes would stop time after time without fade. Wind noise at speed is a gentle whisper and an elaborate heat-vent system (standard equipment) allows good air circulation by fan or natural movement. Seating position is a matter of taste but we found that a day behind the wheel was not fatiguing. Seats are chair high and backrests recline fully so that position can be altered at will.

Fuel economy ranges from 18-23 mpg, depending upon condition and driving habits. The 125-cubic-inch (2054cc) engine develops 82 bhp (SAE 95 bhp) and revs up past 6000 with amazing ease. Top speed is reached at 93 mph. Our standing 1/4-mile runs gave 21.1 seconds and 63 mph while 0-60 mph took 19 seconds. With a large number of so-called extras as standard equipment on the Fiat, the Los Angeles p.o.e. of \$3033 makes the 2100 a competitive entry in the compact car race.



Smooth revving 2-liter 6-cyl. engine turns out 82 hp. Individual intake-exhaust ports aid engine efficiency.



Reclining front seats, package nets, plush upholstery are a few luxury features which make Fiat a good buy.

Getting front end airborne is not recommended but it proves that the 2100 is rugged. Front suspension is torsion bars and A arms; rear by coil and leaf springs.



MT

MT'S IMPORTED CAR SECTION

high 70s. Fuel economy 20-30 mpg. Service and parts network excellent across U.S. Other models: 4-dr. deluxe sed. (\$1875), conv. (\$2149), 4-dr. station wagon (\$2299).

JAGUAR XK-150S RDSTR. (\$5120), Gr. Brit.

Features 265 bhp, 9 to 1 compression, 3.8-liter engine, disc brakes all around. Roll-up windows, good heating and ventilation and superb handling all serve to qualify this 2-seater sports and pleasure car as one of the finest of its type. Traditional Jaguar styling has added luxury and performance features in this modified version of the 150 which is also available at slightly more cost in a convertible with rear seats. 4-speed gearbox with overdrive is standard. Overdrive or automatic may be ordered for standard 150 series (225 hp). Mark IX and 3.8 are both 4-dr. sedans. Other models: 150S conv. (\$5195), cpe. (\$5075); 150 rdstr. (\$4520), cpe. (\$4500), conv. (\$4620).

LANCIA FLAMINIA CPE. (\$6355), Italy

Max. speed, 100 mph, comes from a 112-bhp V6 ohv engine, 2458cc. Overall length, 191 ins., 69 ins. wide, 56 ins. high. Handsome Farina body seats 4 in comfort, average luggage area. Aluminum body is integral with frame; an auxiliary chassis member holds front suspension, steering and engine. Alfin aluminum brakes have two leading shoes in front. Clutch, transmission and rear axle are integral, at rear. Suspension at front is by independent coil with quadrilateral sway bar; rear is transverse leaf, telescopic shocks all around. Other models: 4-dr. sed. (\$5998), Zagato-bodied cpe. (\$6485), Touring-bodied cpe. (\$6485).

LLOYD ARABELLA 2-DR. SED. (\$N.A.), Germany

The Arabella has styling and luxury features designed to remove the car from the economy class. It is offered only in a 4-passenger sedan (the

smaller 600 series offers a full line). Engine is a short-stroke flat 4, 897cc, 38 bhp, quite quick when coupled to a curb weight of 1620 lbs. through a 4-speed all-synchro gearbox with steering column shift. Frame is tube "backbone" and sheet-metal floor pan. Front suspension is by wishbones with coil springs mounted high; rear suspension is independent with single trailing members, coils, stabilizer bar. Brakes are drum-type, with turbo cooling on front wheels. Road-holding and handling are of the best modern standards, and economy is close to 40 mpg at steady 50 mph. Max. speed, also cruising, is 75 mph. Other models: 600 series 2-dr. sed. (\$1395), 2-dr. station wagon (\$1445).

LOTUS ELITE CPE. (\$5049), Gr. Brit.

Low and sleek, this fiberglass-bodied coupe combines pure sportscar with high-speed tourer. Space for 2 with limited luggage area. Suspension is all-independent and handling qualities are of highest order. Power is from overhead-cam Coventry Climax 4-cyl. engine (1220cc, 75 hp at 6100 rpm). Wire wheels, disc brakes, good finish throughout. Wheelbase is 88 ins.; height is only 46 ins. Car is suitable for competition and is a development of Colin Chapman's famed racing and Grand Prix cars. Only model available.

MASERATI 3.5 CPE. (\$11,400), Italy

Brute power combines with high styling in this luxury offering from a famous racing marque. Its 212.7-cu.-in. (3485cc) engine develops 236 bhp at 6000 rpm, is teamed with an all-synchro 4-speed transmission. Front-wheel brakes can be ordered either disc or drum, rear wheels carry drum brakes, system is servo-assisted. Three double-throat Weber carburetors are mounted between the 2 overhead camshafts. Rack-and-pinion steering handles heavily but is quick. 2 or 4 passengers ride on independent spring and coil in front, and semi-elliptic and coil at rear. Other models: a convertible, and a 5-liter coupe (\$N.A.).

MERCEDES-BENZ 300-SL RDSTR. (\$10,950), Germany

One of the "ultimates" in a high-performance sports-tourer for the young at heart. Seats 2 with luggage space in trunk, roll-up windows. All-independent suspension (rear swing axles), 6-cyl. fuel inj. engine develops 240 hp from 2996cc. Wheelbase 94½ ins. Tubular space frame. Weight 2935 lbs. Outstanding acceleration and a top speed up to 140 mph, yet amazing flexibility for traffic. Highest quality throughout and intended for the connoisseur. Other models: cpe. with removable hard top (\$11,128), with both tops (\$11,397).

MG-A RDSTR. (\$2444), Gr. Brit.

Good value "fun" 2-seater which has undergone lengthy development period to remove bugs. Reliable 1588cc engine develops 79½ hp, will move car to 100 mph, get 25 mpg in highway cruising. Independent front suspension, live rear axle with semi-elliptics, rack-and-pinion steering, disc brakes at front, drums on rear. Wheelbase 94 in., weight 1988 lbs. Famous for good handling, it makes good racing machine with proper preparation. Other models: cpe. (\$2667), Magnette Mk. III 4-dr. sed. (\$2695).

MORGAN PLUS FOUR RDSTR. (\$2850), Gr. Brit.

Limited production 2-seater for sportscar enthusiasts is powered by Triumph's 100-hp 2-liter engine and drive train. Ride is firm but handling is excellent. Live rear axle with semi-elliptic springs and vertical coil springs at front. Interior is spartan (non-adjustable seats) but complete. Disc brakes at front, drums at rear. Fuel economy up to 30 mpg, top speed is about 105 mph. Steel body but aluminum panels available as competition extras. 96-in. wheelbase. Other models: 4-seat rdstr. (\$2945), 2-seat drop-head cpe. (\$3195).

MORRIS and AUSTIN 850 2-DR. SED. (\$1295), Gr. Brit.

The body is the simplest, lightest and cheapest (within good taste) enclosure that could be developed to transport four adults and a load of luggage in comfort, at a moderate speed. All of these objectives have been accomplished. Engine is a watercooled

in-line four, 850cc, 37 bhp. Mounted transversely in front, all gears are below with common oil supply. Normal fuel consumption is 40-50 mpg. Suspension is by rubber cone-shaped springs connected by levers to suspension arms. Power/weight (1260 lbs.) is sufficiently favorable to maintain highway speeds, and handling is quite good (assisted by lightness of the car). Performance is aided by 4-speed gearbox; top speed is about 70 mph. Only model available.

NSU SPORT PRINZ CPE. (\$2198), Germany

The name implies exactly what the car is—the sports version of an already sporting automobile. Top speed is 80 mph, with handling qualities that make narrow, twisty roads a pleasure. Aircooled engine (583cc, 36 bhp) is located at the rear, allowing independent suspension by swing axles and coil springs. Vertical twin engine has single-overhead cam with rocker arms working off it to provide benefits of double overhead cams. Front suspension is by wishbones and coil springs. Steel body is fastback design, with lots of luggage space under the hood and inside with rear seats folded. Interesting features include 3 lubrication points (suspension and steering require no lubrication). Other models: 2-dr. sed. (\$1398), with 36-hp engine (\$1498).

OPEL CARAVAN 2-DR. STATION WAGON (\$2263), Germany

A wholly-owned GM subsidiary manufactures this compact wagon in Germany and distributes through Buick dealers here. Seating 4-5 passengers, pay load area is 34 cu. ft. With rear seats folded, 65 cu. ft. is made available for a maximum half-ton of cargo. Wheelbase, 100 ins.; 174 ins. overall; 63.6 ins. wide; 63 ins. high. Engine is ohv, 4-cyl, 1489cc. Compression is 7.5 to 1, 56 bhp at 4400 rpm. Turning circle is 38 ft., maximum top speed, 78 mph. All 3 forward speeds are synchro, steering is recirculating ball. Front suspension is coil with telescopic shocks contained; semi-elliptical leaf springing is at rear. Handling and ride equal to any similar-sized sedan. Other models: Rekord 2-dr. sed. (\$1957).

PANHARD 4-DR. SED. (\$1697), France

A surprising automobile, big, with aluminum bumpers, for example, to keep weight down (1850 lbs.), room for 4 in comfortable seats. Small (2-cylinder, 850cc, 42 hp) engine delivers surprising fuel economy and quite high cruising speed, driven through front wheels. Gearbox ratios are excellent, with 4 close gear splits. Suspension offers good ride, excellent cornering ability. Front suspension independent by double transverse leaf springs; rear suspension by torsion bars. Service facil-

ities may be a bit sketchy in outlying areas, but there are plenty of parts in stock. Other models available: Grand Standing 4-dr. sed. (\$1725).

PEERLESS GT CPE. (\$3995), Gr. Brit.

A 4-bucket-seat touring car powered by the reliable and snappy 2-liter, 100-hp Triumph TR-3 engine and drive components, the Peerless provides comfortable high-speed cruising and a top speed of 100 mph (higher with overdrive). Fiberglass body is well detailed, attractively styled. Interior offers everything needed for creature comfort. Front suspension is independent by coil and wishbone with tubular shocks; rear is by de Dion axle, semi-elliptic spring, lever-arm shocks. Brakes are Girling disc front, drums at rear. Known as the Peerless GT-2, it has excellent handling qualities, good appearance and abundance of power. Only model available.

PEUGEOT 403 4-DR. SED. (\$2250), France

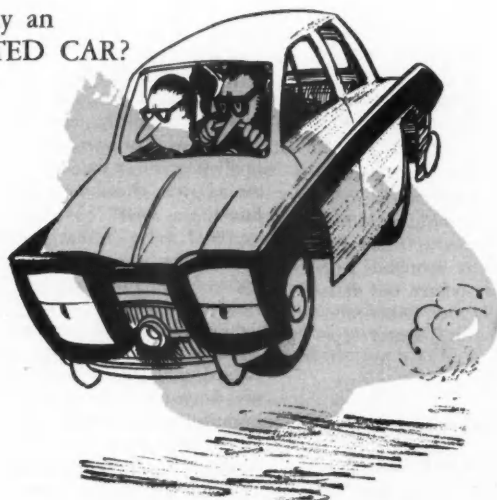
Refinements in this unitized-bodied sedan for '60 include improved rear suspension, raised bumper guards and improved heating system. Seats 5; sunroof and heater are standard. Four-cylinder, 1468cc, ohv engine develops 65 bhp at 4750 rpm; 4-speed gearbox is all-synchromesh. Good economy (minimum 20 mpg) is joined by good performance and handling. Car is extremely reliable and an excellent buy. 105-in. wheelbase, 59-in. overall height, 66-in. overall width, rack-and-pinion steering. Excellent service network in U.S. through Renault dealers. Other models: 4-dr. station wagon (\$2490).

PORSCHE 1600 CPE. (\$3700), Germany

Styled for beauty and best aerodynamics, Porsche power is by rear-mounted, aircooled flat 4 displacing 1582cc and developing 70 hp (Super engine 88 hp). Interior appointments, detailing and finish are exquisite. All-synchro 4-speed gearbox, all-independent suspension, equal weight distribution make for delightful handling and control. Comfortable bucket seats for 2 with space behind for children (or 1 adult) or luggage. An outstanding car. Other models: Super cpe. (\$4150), rdstr. (\$3581), Super rdstr. (\$3981), cabriolet conv. (\$3950), Super cabriolet (\$4400). Super 90 cpe. (\$N.A.).

continued

Why Buy an IMPORTED CAR?



"... For that individual, beatnik look ..."

MT

MT'S IMPORTED CAR SECTION

RENAULT CARAVELLE CONV. (\$2395), France

With a more Continental look, Renault expects as much as 60 per cent of its sales in this country to be Caravelles, available as a four-passenger car in coupe, hardtop convertible and soft-top convertible versions. Engine is basically Dauphine, slightly modified to provide 40 hp at 5000 rpm. Wheelbase is 89 ins., overall length 167.8. Weight of the coupe is 1675 lbs., or approximately the same as the Dauphine; performance is much snappier, and fuel economy is around 30 mpg. Coil spring suspension with auxiliary air and rubber suspension cushions, plus very good seating, provide a comfortable ride. Other models: cpe. (\$2445), hardtop conv. (\$2525).

and oil produces economy in the 30-mpg range. Other models: 93-B 2-dr. sed. (\$1895).

SIMCA OCEANE 2-DR. SPORTS CONV. (\$3167), France

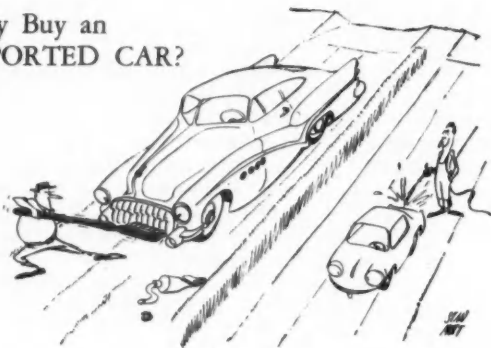
One of the 2 in the sports series, the Oceane offers comfort approaching luxury for driver and one passenger. Well-fitting roof, roll-up windows, beautiful appointments, and the Special Flash engine—57 bhp at 5200 rpm from 1300cc and pushrod-operated valves. The 4-speed column-shift gearbox is smooth, with seemingly always the correct ratio at hand. Power peaks at about 85 mph, and corner-

has plenty of suds, and in conjunction with 4-speed gearbox provides acceleration about equal to a Ford 6. Discs at front and drums at rear provide better than excellent stopping power. Front suspension is independent by wishbones and coil springs, stabilizer bar; rear is by semi-elliptics and live axle. Interior is well appointed; yet not fancy. 2 seats are comfortable with good instrumentation, all controls well to hand. Rear seat is hardly usable as such, for lack of legroom, but takes loads of luggage. Metal hard top is optional to make a well-sealed coupe. Only model available.

TAUNUS (FORD) 17-M 2-DR. SED. (\$2028), Germany

The Taunus has the appearance of a slightly smaller American Ford of a few years back. 17-M engine is a medium-size (1698cc, 67-bhp) overhead-valve powerplant that cruises the Taunus with slightly more than moderate comfort at moderate speed. Normally comes through with three-speed gearbox; but four-speed box and automatic clutch are options on the 17-M. Suspension uses wishbones and coils at the front, live axle and semi-elliptics at the rear. Maneuverability is good, handling is fair, and performance is better than would be indicated by 25-30 mpg on regular gasoline. Long suit is smooth ride on good road, not too much noise. The 12-M is slightly scaled down with a smaller engine (1172cc, 43 hp). Other models: 17-M 4-dr. sed. (\$2120), 2-dr. station wagon (\$2237); 12-M Super 2-dr. sed. (\$1701), 2-dr. station wagon (\$1875).

Why Buy an IMPORTED CAR?



"... So you can throw away your old toothbrush ..."

SAAB GT 750 2-DR. SED. (\$2568), Sweden

A "hot" one of two identical-appearing sedans, both of which are seen in limited numbers in the U.S. This is a 50-hp three-cyl., two-stroke aircooled-engine car with front-wheel drive and a kit for its powerplant for an added 7 hp if desired. An excellent riding car, it has relatively speedy performance characteristics and is put together with obvious care and skill. In eastern competition held on frozen lakes the Saab is rarely, if ever, beaten, regardless of power and size of its challenger. Ideally "compact," it carries 5 adults easily. Mixture of gas

ing ability is par with raw sporting machinery. Front suspension is independent with coils and wishbones; rear is by live axle and semi-elliptic springs. Overall impression is sportscar with most of the austerity refined out of it. Not cheap; but really nice. Other models: Plein Ciel 2-dr. sports cpe. (\$2947).

SUNBEAM ALPINE SPORTS RDSTR. (\$2595), Gr. Brit.

Obviously styled with American tastes in mind (fins), the Alpine is the standout of the Rootes Group line. Straight 4 engine (1500cc, 83.5 bhp)

TOYOPET CROWN CUSTOM 4-DR. SED. (\$1999), Japan

Rugged, sturdy and heavy; yet, finished with ultimate attention to the smallest detail (a touch of a button and the ash tray slides out). Will seat 5. Engine is small (1453cc, 65 bhp) overhead valve 4 that gives close to 85 mph top speed. Gasoline mileage is high—30-35 mpg. Suspension is conventional wishbones and coils at front; semi-elliptics and live axle at rear. Springs and A-arms are meaty and rugged, will take lots of abuse. Brakes are drum-type hydraulics. Recently a beautiful station wagon has been added to the line. Both models include features (optional electric shaver in glove box) found in very few cars. Other models: 2-dr. station wagon (\$2111), 4-dr. station wagon (\$2211).

continued on page 58



VOLVO P-1800

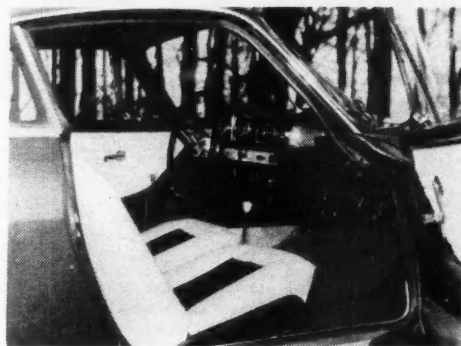
New Swedish GT coupe will be produced in England

FEW NEW CAR ANNOUNCEMENTS have aroused as much excitement as Volvo's P-1800 coupe. It appears that they have the formula—smart design and proven components—to crack a segment of the auto market which will give them both prestige and profit.

The P-1800, designed in Italy by Frua, bears a strong resemblance to some of the beautiful custom coupes which were installed on Ferrari chassis during the mid-'50s. Wheelbase, 96½ inches, is shorter than their sedan, and unit construction has been used to insure typically solid Volvo construction. Although the factory claims that the engine is of completely new design, it appears to be a bored-out, slightly hotbed version of the sturdy sedan powerplant. The four-cylinder in-line displaces 108½ cubic inches (1780cc) and develops 100 bhp at 5500 rpm. An all-synchro four-speed gearbox, optional overdrive, braking system that incorporates 10⅞-inch discs at front and drums at rear, independent front suspension and live rear axle suspended with coils complete the mechanical components. Interiors are lavishly appointed. Individual bucket seats appear to be carefully designed while the dash panel and steering wheel could have come right out of Detroit.

No real word yet on how the car handles but there is every reason to believe that it should handle as well or better than the already good handling PV-544 sedan—making the coupe a first-rate Gran Turismo machine.

Production will start in September but not at the home plant in Sweden. Pressed Steel Ltd. in England will produce the bodies and assemble the cars. According to the factory, existing facilities in Sweden are running to capacity, necessitating the move. By January of next year production is expected to be about 100 cars a week. If price is kept between \$3000-4000, we believe there will be a ready market.



Interiors are set up for sportscar minded even though steering wheel and instruments are on the flamboyant side. The seating appears good.



Cleanly executed fin, lack of extra chrome, and Italian styling make the P-1800 one of the most attractive medium-priced coupes we have seen.

MT IMPORTED CAR SECTION

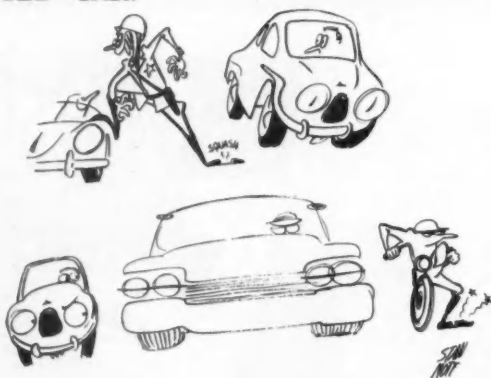
TRIUMPH HERALD CPE. (\$2149), Gr. Brit.

Latest 2-seater makes up in handling what it lacks in style. 4-cyl. 948cc in-line engine develops 50 hp at 6000 rpm, gives top speed over 80 mph. Double backbone chassis with 7-piece body bolted on. Only 4 parts ever need lubing. 4-wheel independent suspension (swing axles at rear), rack-and-pinion steering, 4-speed gearbox. 25-ft. turning circle makes it easy to park. Wheelbase is 91½ ins., weight in touring trim is 1736 lbs. A true sports-economy car giving up to 40 mpg. Other models: 2-dr. sed. (\$1999).

TURNER 950 SPORTS RDSTR. (\$2245), Gr. Brit.

With an advertised top speed of 95 mph and snappy acceleration, this unusual, basically competition-type car uses the BMC 4-cyl. 948cc ohv engine with two SU carburetors. Lightweight, easy and sure handling, its inroads into the U.S. market have been negligible to date. Rigid frame creates a rough, "sporty" ride; braking system needs improvement for competition. Choice of gear ratios available. Service generally good at BMC dealerships; Turner outlets are few with largest distribution

Why Buy an IMPORTED CAR?



"... You make a boo-boo, it's easy to hide ..."

TRIUMPH TR-3 RDSTR. (\$2675), Gr. Brit.

2-seater with optional rear seat offers good luggage space and brilliant performance from race-proven 1991cc engine developing 100 hp. Independent front suspension, live axle and semi-elliptics at rear. Disc brakes at front, drums at rear. 88-in. wheelbase, 2128 lbs., 4-speed gearbox with optional overdrive. Top speed about 110 mph with outstanding economy up to 35 mpg. Handling, braking and reliability make this an ideal package for economy-minded sportscar enthusiasts. Other models: with removable hard top (\$2835).

in Midwest and East. Other models: Stage II rdstr. (\$2635), Coventry Climax I rdstr. (\$3170), Coventry Climax III rdstr. (\$3370).

VAUXHALL VICTOR 4-DR. SED. (\$1957), Gr. Brit.

Similar in appearance to the '55 Pontiac, the Vauxhall is rather big in terms of English economy cars. Made by General Motors, the Vauxhall comes in two series. The smaller (4 cylinders, 1500cc, 55 bhp, 98-in. wheelbase, 2250 lbs.) is called the

Victor. The Velox and Cresta, larger, are not imported to the U.S. Suspension at front is wishbones and coil springs; rear, live axle and semi-elliptic springs, braking is drum-type hydraulics. Handling and performance are adequate for American roads, on a car designed to transport 4 (or 5) adults in quiet comfort at moderate to moderate-high speed with a moderate initial cost and 25 mpg on regular fuel. A good car for moderate people. Other models: 4-dr. station wagon (\$2263).

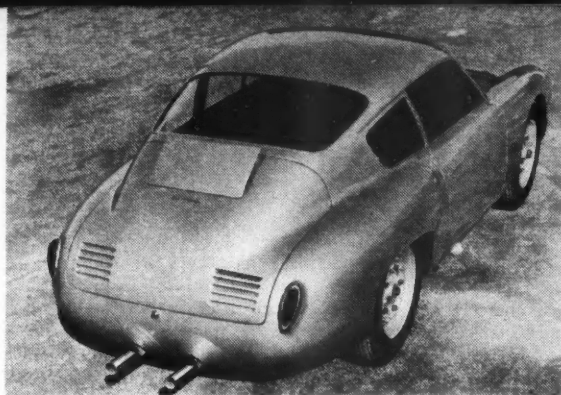
VOLKSWAGEN 2-DR. SED. (\$1565), Germany

A most successful small car with an excellent reputation, the VW for '60 is "unaffected by whims of fashion" and retains the aircooled 4-cyl. opposed 36-bhp engine. Torsion bar suspension front and rear, a 68-mph cruising speed (where allowed), and safe road-holding combine to make it one of the best buys on the road today. Parts availability and service not critical but sometimes slow. 4-speed gearbox is synchromesh on 2nd, 3rd, and 4th gears, mileage is in the honest 28-36-mpg range. Other models: 2-dr. sun-roof sed. (\$1655), conv. (\$2055), station wagon (\$2245), Karmann-Ghia cpe. (\$2430), conv. (\$2695).

VOLVO PV-344 2-DR. SED. (\$2342), Sweden

Known as the family sportscar, this unit-construction 5-passenger sedan is powered by 4-cyl. 1582cc engine developing 85 hp. 4-speed gearbox is all synchro and handling is so good that Volvos are occasionally run in sportscar races. Front suspension is independent; rear has live axle and coil springs. Luggage space is excellent. Wheelbase is 104½ ins. and weight is only 2072 lbs. 100 mph top speed with proven 25 mpg economy. Other models: 2-dr. station wagon (\$2490), 122-S 4-dr. sed. (\$2807).

All prices are p.o.e. and include shipping, U.S. excise tax and import duty. Not included are dealer preparation charges, U.S. transportation, state and local taxes.



Un-Porsche-like rear has adjustable aircoop. Interior hardware, steering wheel, gear lever are standard items.

A Limited Edition

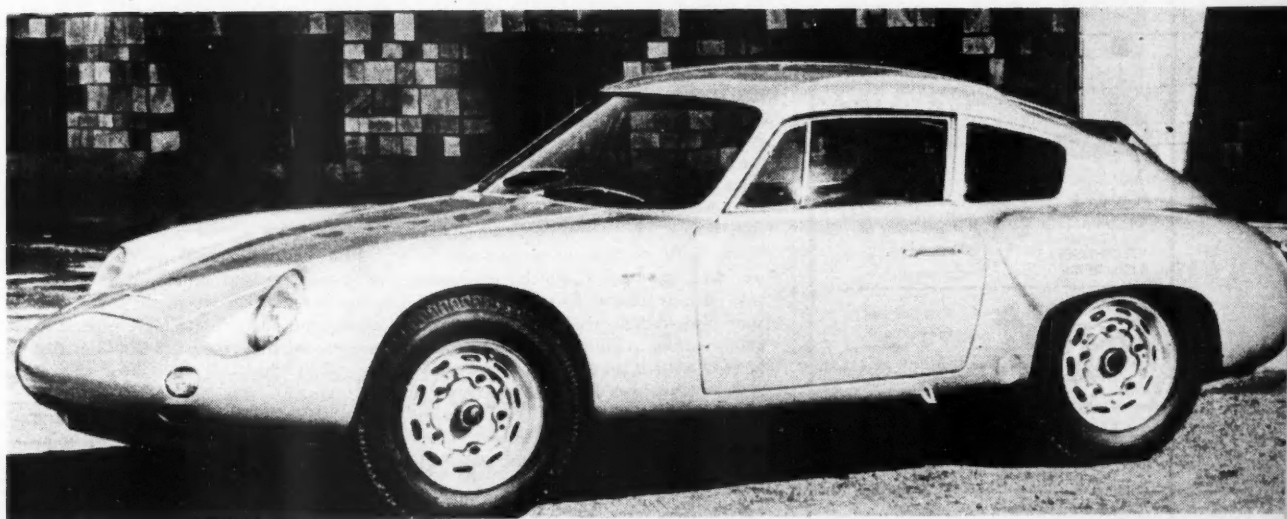
Abarth Porsche
Carrera illustrates
broad versatility of
overseas designers

THE "UNCHALLENGED OVERSEAS SELECTION" we mentioned at the beginning of this section is possible for many reasons. One reason is illustrated here—the installation of a distinctive custom body on an existing chassis by one of Europe's many limited-production coachbuilders. Germany's Porsche is the subject and Abarth of Italy is the firm that has transformed the Carrera GT chassis into an exciting coupe that is as fast as it looks.

Plans are to build 20 cars in this truly limited series. While this makes them rare, it is most certainly not a car that would sell in large numbers even if Abarth could produce more. Utility in this type of automobile is restricted to competition or high-speed fun driving; it is an expensive (no price available) plaything. The point is that many of the world's most famous and talked-about cars—cars that help make up the wide selection from abroad—are similarly rare; yet they are produced and can be purchased if money and desire are both present in equally generous quantities.

Abarth's body is super lightweight. Special care has been taken to improve streamlining; for example, even the windshield wiper feeds are covered by a small fairing formed in the nose panel, and the glass itself is as nearly flush with the body as possible.

The high-performance, four-overhead-cam engine, essentially a de-tuned Spyder powerplant, develops 115 hp (DIN rating) from 1600cc. This is one very fast automobile.



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Date Bait

continued from page 25

tion) are nowadays jam-packed with cars—more cars, and sometimes fancier, than stalled in the teachers' lot. Grins a boys' vice-principal in Illinois, "I'm almost embarrassed driving out in my '56 when a dozen of our kids are wheeling '58s to '60s."

Some schools—one in California as typical—watchdog student cars as though they were big game trophies. The student lot—and its more than 150 cars—is girded with a six-foot link fence. Monitors, on 53-minute shifts, patrol the gate. Explains a school executive, "We don't want any cap-swapping during class hours."

Seniors—the majority of them car owners—claim at another school that "fraternity" pledges work their initiation stint in the parking lot... polishing the upper classmen's chrome.

Mosey the cars stalled at some suburban Highs and it's hard telling—at first glance—that their owners are teen-agers. Except for nosed front ends, a scattering of unhooded rods and more foreign-built flivvers than you'd expect, it could be any parking lot anywhere—more easily a supermarket's than John Doe High's. It's that second look—a closer scrutiny—that pegs this as a domain of teen-age status.

A 1955 two-tone Ford coupe shimmers in the noonday sun—its interior agleam with chrome: chrome sills, chrome glove compartment, chrome-backed visors.

There's hardly a wheel anywhere that's not decked out with spinners—the Olds predominating. The dash of a '50 Ford is painted gray and festooned with white scallops. Lift the hood of a nondescript Customline Ford—and a '59 V8 engine, blistered with carbs and chromed to its mounts, all but roars at you. This job's rarin' to go... and you can bet that, 60 seconds past 3 P.M. when classes let out, it'll be cornering for home... or maybe, for the local malt shop.

But what catches the perceiving eye are the date-baiters which, obviously, have already caught fem fish: that two-door stick-shifter, its rear view mirror hung with a cuddly yarn octopus; the Merc (with Corvette engine) whose dash mounts two ashtrays, one lettered "his," and the other "hers"; the steering wheel that wears a hand-knitted bootie. Louder than words they proclaim "this is my man... and our car."

Razzle-dazzled though the date-baiters

are—those who've caught them and those still angling—a surprising lot of them are late-model '57s and '58s... and more than a few are last year's Thunderbirds. You guys are going for broke... and reaching for status.

Near-campus car dealers say the hand-holding crowd is "trading up"—you and your steady car-shopping for later, more expensive (and more conservative) models.

One Detroit motivational expert, peering over the shoulders of the nation's teen-agers (yes, your shoulder too), declares that only in high school does the car's status remain unblemished... and all but deified. Explains the Detroit, "Mom and Dad may be 'trading down,' buying less luxury and more economy, but their teen-aged Johnny still shops for the best, flashiest and most expensive car he can afford."

Detroit, with an eye on the two million teen-agers who each year pocket their first driver's license, is jubilant.

Somewhat less gleeful is a coach at an eastern high school. "I lost two of my best basketball prospects last year," he laments. "The boys came in and said they just didn't have time to practice... needed every spare moment for part-time jobs to keep themselves in gas and gadgets."

A principal estimates that of the some 50 senior boys currently on the school's 4-4 program (they attend classes four hours a day, work four hours), "at least half are working to support their cars..."

A vivacious girls' vice-principal, herself not many years removed from her teens, says she'd rather not speculate on the car and its high school symbolism. Her only comment, "Cars... have gotten my girls into plenty of trouble."

An athletic director, noting falling attendance at school football games, blames the car. "The kids," he says—and maybe he's talking to you—"would rather be out tooling around... than in the bleachers."

Sums up a principal, who admits all educators don't share his views, "For good or evil, the car is the greatest influential factor in our high schools."

Says another school head, "What's uppermost in the minds of our kids today is a car... when can they climb legally into one... and more especially, into one of their own." He implies that the chicks cluck as much over cars as their guys.

Peek at the ownership certificates strapped to steering columns of some of the fanciest models—in your high's lot—and you're in for a shock (unless, like you, you're teen-aged and hep to

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Date Bait

continued

the score). The score: plenty of the sporty buggies—crimson Jags included—are chick-owned and driven. That's right, the fellow behind the wheel is no fellow at all... but a blue-eyed lass with built-in curves.

But if teen-custom is your yardstick, that gal—and plenty more like her—are brazenly running the social stop-light.

Says a fellow in Memphis who blew the whistle on his own blue-eyed stop-light runner, "My girl and I busted clean up... after she went out and bought herself a car. There's no twosomeing it when your gal's drag-racin' in the next lane... in a job all her own."

What soured the romance wasn't, he stoutly maintains, the fact that she had a car. Like most teen-aged chicks she wisely left her flivver at home on dates. Trouble was that hers was a 1955... and his, a 1950.

"Those five years' difference kinda ate on me," her ex relates. "I dunno, but after she went mobile, and independent like that... things just weren't the same."

Still, while 10 per cent, and occasionally as high as 60 per cent of a high's driver-age guys may own (or be buying) cars, rare's the school that counts more than 5 per cent of its coeds behind a wheel of their own.

One reason few chick drivers are owners, suggests a senior problems adviser in Louisville, is that parents don't consider car-ownership a girl's "right," as do some when it comes to boys. "Besides," he continues, "girls haven't the same opportunity to work at part-time car-financing jobs."

Closer to hitting the social bull's-eye is a 16-year-old Boise blonde who says, "Cars give a girl too much independence... and boy's don't like that."

Your chick, like the majority of her chums, is wise to her role as a feminine dependent. She may own a car or have whenever-she-wants-it access to the family's, but she doesn't flaunt her mobility. Not, at least, as a general rule. Having weighed the risks, she hesitates to step, socially, into the driver's seat. The fact that she seldom does is what makes your car date bait... what gives it feminine status... and your girl goose-pimples about Detroit.

No, she's not bugs about buggies in the same way—or even for the same reasons—as you. She'd probably agree with the panel of teen-agers from Indianapolis' North Central High School

who chided their guys for "thinking a car is the most important thing in the world." (And in the next breath conceded that it was by advising girls, hankering popularity, to "learn all about sports and cars.")

Nor, for that matter, does your chick give more than lip service to your doting on carbs and pipes. Says a father in Los Angeles (who also happens to be a school executive), "My 16-year-old daughter knows every part of a car by name and serial number . . . but lift the hood and ask her to point out the carburetor, and she's baffled."

Nor is she, that cutie of yours, any great shakes for speed. Press the accelerator to 60 and if you'll glance over in the cushioned suicide-seat (plain, pleated or bucket), you'll find her cringing. Sure, she may pack a box lunch for you and tool out to the dragstrip, but when your high school chick ties up the phone yakking with her girl friends, you can bet she's not car-talking. She's talking about . . . you.

You don't have to rate an A in Senior Problems to savvy what Detroit really means to *her*. No, to that chick of yours, Detroit isn't stick-shifted, two-doored or chromed. Rather, Detroit is prestige, social status . . . and *you*.

Blonde, brunette or redhead, she's by nature a prospector—compelled to stake claim to a boy. She'd like to jump-claim the biggest, richest vein—a handsome you and your prestige car. But when it comes to cars, she'll settle, albeit reluctantly, for less. All of which explains her "car possessiveness."

Time was when campus cuties knitted socks for their guys. Nowadays, they're more apt to knit fancy coverlets for his rear view mirror . . . and fancier wrap-arounds for the horn ring. Whatever socks come off her hand loom dangle from the sun visors. That's her way of staking feminine claim to you—her guy. And carving her initials, so to speak, on the one sizable, prestige symbol of your togetherness—your jalop.

Your car? Less important than the model you drive is the fact that you have a car and it's yours together . . . something you share . . . like that yarn doll that hangs from the visor . . . or the stuffed tiger that yawns out the back window. She purrs as contentedly as that tiger when, wheeling down to the strip, you tell the brushman to scroll a name plate on the rear fenders . . . and paint your jalopy with *her* name . . . "Lovin' Lizzie" . . . "Jumpin' Janet" . . . "Bouncin' Barbara."

Grins a California teen-ager, "I'm goin' broke, paintin' out one gal's name and having another put in. Last month

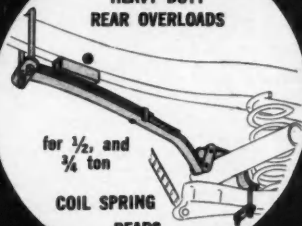
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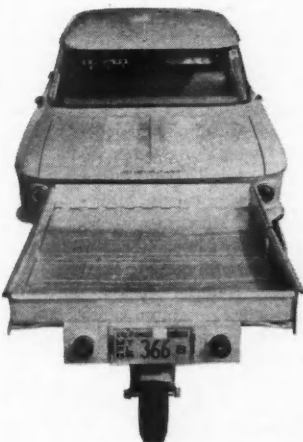
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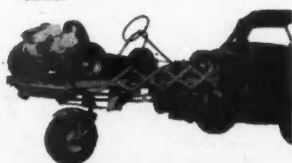
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Date Bait

continued

the flivver was 'Lovin' Lucy.' Now the thing's in the paint shop again . . . and this time I'm playin' it safe . . . gonna name it 'Limpid Lover,' which covers them all."

Freud, were he still mobile, would flip at a chick's eye-view of your car—as date bait. And so, for that matter, did MOTOR TREND surveyors when the gals got down to analyzing the date bait likeliest to catch the biggest campus fish, themselves included.

Lilted a Georgia peach, "It's the interiors that count with me—you know, real cozy with maybe pleated seats and panels."

A ranch cutie from California's San Joaquin valley said bluntly, "If my date showed up in a station wagon, I wouldn't go out with him. I don't know why, but a station wagon makes me feel . . . kinda married . . ." (Detroiters might wince, and Freud grin, but the gal, like some others, conjures stronger ties than she'd like . . . when a station wagon looms in sight. Motivational researchers explain her reaction by the fact that the station wagon is ballyhooed as a "family car.")

A sophomore, too young herself to drive, said the first thing she looks for is a radio. If the car's without one, she figures the guy for a square.

Not surprisingly, the closer a girl to high school graduation, the sleeker the car she hankers. "A real late-late model or nothing," murmured a 12-A blonde, and straightway conceded that her boy friend's car—the one they regularly drive on dates—is anything but late-late.

A few shared the guy's appraisal that bucket seats were for the birds—but not love-birds, certainly.

Paradoxically, even the gals who'd learned driving on automatic shifts (and presumably couldn't handle anything more complex), thought stick shifts dandy. "They're cute," chirped a Virginia junior, "and by helping to drive, you feel a part of things."

Girls who were still prospecting—with no real hankering to pin themselves steady to anybody—dreamed of he-men in T-birds, Jags, Corvettes and Detroit convertibles. The shackled usually said they were happy with whatever their guy had—be it a hot rod or a late-model two-door.

But, strangely, most girls didn't dig cars that, obviously priced heads and shoulders above their guy's resources, all

but shouted, "He's driving his pop's Cad."

"A car like that," said one level-headed blonde, "doesn't belong to *you*." By *you* she meant her guy and herself. She admitted, as did most, that she'd far rather date in a boy's own car, vintage be darned, than in his dad's.

"A grown-up's car is all right maybe for something special . . . like a formal dance," a senior in Indiana said, "but it kinda takes the edge off an average Saturday night. You've got to be so careful . . . and everything."

One 16-year-old said her boy friend had just picked up a 1933 Chevy for \$100 . . . and that he was going to paint it metallic blue, nose it, invest in roll-and-tuck upholstery and maybe festoon the hood with flames and scallops. And she added, "If that's how he wants it, it's all right with me."

A chick's eye-view of your car as date bait? That's how the girls saw it . . . or, at least, said it.

But plenty of high school guys didn't agree. "My girl's old man bought her a T-Bird," said one unhappy senior. "I drive a 1954 Ford convert. You *really* think she's happy steppin' out of low-cut luxury into something six years older and twice as high?"

"Around here," said a junior whose Maryland high school draws from the financially fit, "a guy can't make out with anything much older than a '56."

On the other end of the scale was a lad from a high school, which with a student body of 1000, boasts only a handful of cars, including his own 1953 Chevy (customized and hopped up).

"Fellows here," he said realistically, "start working part-time when they're 13 or so . . . trying to save for a car. But not many of them make it. With so few cars around the girls don't care one way or another. If they did, they'd never go out."

But in most of the nation's 30,000 high schools, the girls do care—and the car poises on a pinnacle of unrivalled status. "You're dead . . . without a car," says a senior (who has one) in Louisville.

"Maybe you're not really dead if you don't own a car," says a 17-year-old in Detroit who doesn't, "but you might as well be."

"Cars and chicks," concludes a letterman from a high school in Chicago, "are both kinda hard to figure."

But since they go together, you've got to figure them . . . like it or not. Mostly you've got to understand your chick's purple passion for Detroit . . . and what it conjures up for her. To her, it means prestige and social status . . . but mostly Detroit means *you*. /MT

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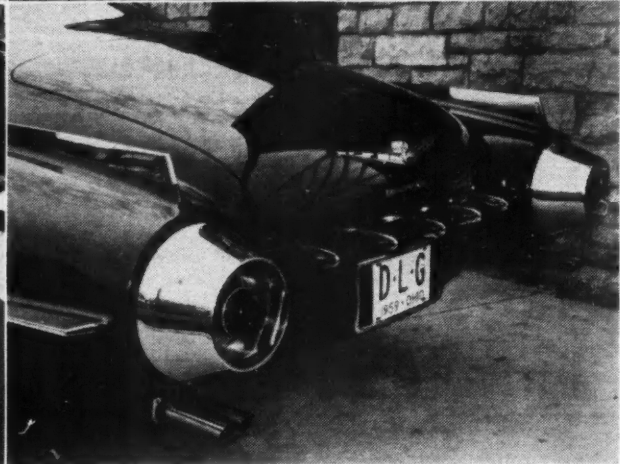
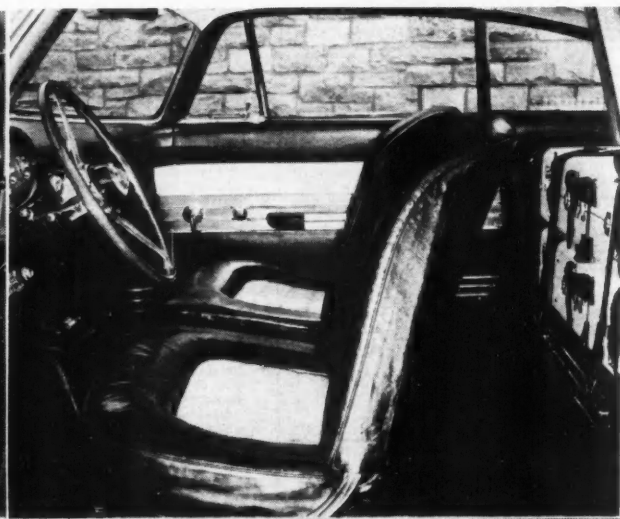
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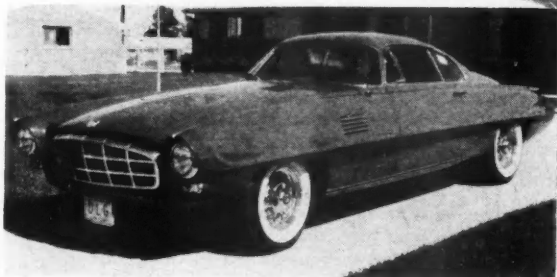
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Adventurer II is a sleek study in elegant design. From the sparkling trim around the spotless engine compartment—housing a 170-hp '54 DeSoto V8—to the chrome-mounted exhaust tips, the car bespeaks its Ghia heritage. The individual leather bucket seats flank a Corvette-type tunnel console. Rear seat space is taken up by fitted luggage that matches the interior decor. Through the Nardi dished steering wheel glistens an engine-turned dash. The tinted back window retracts into the rear deck, is electrically operated. Hinged rear quarter windows have full-length rub strip. The 207-inch-long car has a 125 1/4-inch wheelbase, is 78 inches wide and 54 3/4 high. The grille is made of 1200 pieces of hex aluminum.

FIT FOR A KING but no room for bodyguards." That was the verdict of King Mohammed V of Morocco after a two-week trial of Adventurer II. Because the king required more than two bucket seats for himself and his entourage, this custom-designed car spent three years in the oblivion of North African storage. It finally made its way to the U.S. and passed into the hands of its present owner, Dale Grove, auto enthusiast from Dayton, Ohio.

Adventurer II and its twin, Adventurer I, were created by the Ghia Automobile Works, Torino, Italy, in 1954. The Chrysler Corp. commissioned the work, shipping two DeSoto chassis to Ghia to be fitted with identical bodies. The two cars were completed after approximately nine months at a cost of \$35,000 each.

Adventurer I was shipped immediately to the Chrysler Proving Grounds where it has since remained.

Adventurer II made the rounds of the fashionable salons and automobile shows in Europe, and was then shipped to the Arab ruler in Casablanca. He liked the hand-pounded steel body, black-and-white leather upholstery, vivid red exterior—but, alas, it was too small for his regal needs . . .

Since the car is completely finished under the frame and fenders—and is kept in concours condition—owner Grove takes it out only when weather conditions are ideal. Needless to say, it's an attention-getter every time.

Beef Up Your Suspension

continued from page 37

and wrecking yards. It will usually pay off. There is, of course, an astronomical number of standard parts available which have surprising possibilities for substitution. Aside from this, however, it is not widely realized that Detroit has made a considerable amount of hardware that was designed basically for racing. These pieces usually wind up in the parts books as police car or "interceptor" equipment. Also, special equipment for station wagon, "export," and taxicab models tends to be heavier.

If you know of a hole in the fence at the local wrecking yard or otherwise have access to a large pile of old stabilizer bars, smoke them over. You may find one the same shape as yours with a suitably greater diameter. An outstanding example of something you may stumble across is the one-inch-diameter '52-'54 Lincoln "heavy-duty" bar, which was used for racing. A fairly mild increase in stiffness can be neatly accomplished in the case of late-model Ford products, which have the standard bar and brackets, by simply adding a '57 Ford bar, which runs in line with the lower A-frames. This can be done without disturbing the stock installation. Bars of $\frac{7}{8}$ -inch diameter and over may require some beefing of brackets. Arc welding the outer brackets more securely onto the A-frame plus welding large washers around all bolt holes should suffice.

If you just can't seem to find an appropriate stock bar, you might as well plunge ahead and build one; it isn't a really difficult job, and it's a very necessary item. When you bend up the bar, try not to keep it hot any longer than is absolutely necessary. The shape should match the stock bar within $\frac{1}{4}$ -inch, and it is quite important that the arms (A) wind up in the same plane. Any kind of alloy steel you can get your hands on will do for this purpose, but remember what kind it is because you will want to get it heat-treated and the man will need to know. A hardness of Rockwell C 34-36 will more than get the job done. As far as enlarging the holes in the two main rubber bushings is concerned, if you can figure out a quick method that doesn't involve a rotary file and vast amounts of fragrant rubber dust, let us in on it. Make sure everything is tight in the final installation. A couple of extra spacers in the outer links will help take the slop out of the rubber washers.

UNDER CONSTANT PRESSURE from an adamant citizenry over the years, Detroit has developed a ride that gives unparalleled comfort over the normal range

of driving conditions. This ride is, in a word, **SOFT**. The most important function of a suspension is to keep the wheels on the road. A soft suspension has no drawbacks at low speed—the wheel moves up and down over bumps without hardly disturbing the car, just like the ads on TV. But it isn't too hard to imagine what happens to this happy picture at high speed—the wheel bounces every way but off. Another very important function of a suspension is to keep the sprung mass of the car reasonably restrained during violent maneuvers. It should be obvious that it will take a lot of suspension to keep 3000 or 4000 pounds of automobile from getting out of shape braking hard into a curve on a bouncy road.

In the area of springs and shocks, you're not going to get something for nothing. If you completely modify your suspension to work well under hard driving, it will be as much a failure at comfort as a comfortable suspension is at hard driving. Heavy springs and shocks will let you go through bumps at speed you will hardly believe, will hold



"Mom, is Dad beefing up his suspension . . . or just beefing?"

the car up in the corners and keep it on the ground in those long, fast curves. But when you drive slowly down the street, every little tar line will be talking to you.

THE SUBJECT OF COIL SPRINGS is fascinating and complex. Suspension coil springs are tricky to design and expensive to build. They are most definitely not the kind of item you can go out in your back yard some afternoon and bend up, like a fat stabilizer bar. We can offer no exact formulas that will tell you just what kind of a spring you will want. We will, however, try to help you understand the basic characteristics of coil springs, avoid some of the common pitfalls, and (we hope!) come reasonably close to what you might have in mind

the first time that you let the jack down.

When you go looking for heavier front springs, stick to your stock coil diameter. This is not difficult, since coil diameter, or spring O.D., is a fairly standardized dimension. The basic idea is this: The heavier the wire and the fewer the number of coils, the stiffer the spring (see illustration). If a mild increase is desired, you generally don't have to go any further than the station wagon, "export," or taxicab model of your make. If the springs from the station wagon model of a much heavier make of car will fit in without any shortening, the result will still be a very civilized suspension. It is important to remember that if the car is raised, the ability of the wheels to follow the road will be impaired because their rebound travel will be too limited, and the center of gravity of the car will be higher, which is very undesirable. If the car is lowered very far, the suspension will not have enough "give" over bumps, and the resulting "bottoming" of the suspension can be very destructive. Try to keep the car centered between the stops.

If you are looking for a really major increase in chassis performance, you will have to light up the torch and go in for some trial-and-error efforts. Remember that when you cut a spring to shorten it and lower the car, it becomes stiffer. This means it will deflect less under the weight of the car than it did before. It becomes difficult to predict accurately how far the car will drop. To avoid as much of this as possible, find a spring that has heavier gauge wire, or wider spacing between the coils, but not both. Cut enough off this spring so that the free length is about an inch longer than the distance between the spring seats with the suspension out at full rebound. If the resulting height of the car is too low, start again with a heavier spring (perhaps with both heavier wire and wider coil spacing). If it is too high, keep cutting.

Rear springs should not be increased in rate unless, after installation of the proper shock absorbers, there is more tendency to "bottom" in the rear than in the front. If this is the case, add an extra second leaf to your springs. A comparatively lower spring rate in the rear is desirable to minimize unweighting and spinning of the inside rear wheel when accelerating out of corners.

REAR END WINDUP under hard acceleration is evidence of the torque that is driving the wheels, reacting in the opposite rotation so as to raise the front

continued on page 70

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Suspension

continued from page 68

of the rear end housing. This has the incidental but definitely harmful effect of forcing the rear U-joint to operate at an extreme angle at the very time when its loads are the greatest. The extent of this travel can, and should, be greatly limited by the installation of a Traction Master rod, or by the back-yard expedient of preventing the spring from being twisted into an "S" shape. This can be accomplished by adding an extra main leaf to the spring, extending from close behind the front eye back only as far as the center bolt and spring seat. About three stout clamps should be used on the front half of this reworked spring to hold the leaves together tightly. Either method vastly improves the locationing of the rear end without appreciably changing suspension stiffness.

To further improve locationing and lateral control of the rear end, bronze bushings may be substituted for the rubber bushings both in the front pivot and the rear shackles. These are almost always standard-size bushings that a bearing house would have in stock.

After the front of the car has been definitely set as far as height is concerned, the car should be leveled with a full load of gas and driver aboard. Preferably, this should be done by having the rear springs de-arched the required distance. Any good spring shop is equipped to do this simple job quickly, accurately and inexpensively. Lowering blocks, though far less desirable, will get the job done. Just remember that a so-called "two-inch" lowering block is not two inches thick; it is so designated because it will lower the car two inches measured at the bumper.

IF, AFTER MODIFYING your springs, you don't immediately install the necessary shock absorbers, your neighbors will probably react as if you'd painted the car in polka dots, and you will begin to suspect you've created a monster. Stiff springs plus original-equipment shocks invariably produce an embarrassingly uncontrollable, bounding ride. Don't drive it off that cliff, though, for you are but minutes away from the suspension you'd hoped for. Merely bolting on the proper shocks is like the addition of a catalyst that will turn this "monster" into a normal-looking car with a firm and very effective suspension.

What are the "proper" shocks for your car? Well, if you went no further with the front springs than the substitution of heavier but untouched stock

springs, then a replacement heavy-duty shock of good quality, such as the Monroe 500 or the Gabriel AdjustOMatic, should work out nicely all the way around. Slightly stiffer than the 500 is the KONI, a very high-grade adjustable-type imported shock.

If you shortened or otherwise modified your new front springs to make them additionally stiff, you should have racing shocks. Monroe has made competition "tear-down" shocks for all makes and models of stock cars that have been raced, so there is a very good chance they have something that will bolt right into your car. These, of course, are not on-the-shelf items at the local parts house, so the best bet is to write direct to Steve Linsenmeyer, Racing Division, Monroe Auto Equipment Co., Monroe, Mich. for details.

These "tear-down" shocks are so named because they can be taken apart to change the valving. If you feel the standard valving is not suitable for your car or driving, or if you just want to fool around with them, you can obtain and install valves which will change the damping action in rebound or compression separately.

Somewhat less satisfactory, but less expensive and perhaps less complicated for some people is the possibility of bolting or welding on an extra set of shock brackets all the way around the car. This way, a double set of stock shocks may be used instead of a single set of expensive, complicated (but effective!) racing shocks. If you have a bottoming condition in the rear, as mentioned above, you can kill two birds with one stone by making your extra rear shocks Monroe "Load-Levelers."

So much for suspension and what it means in terms of "ride."

In our discussion of "handling" next month, it will be assumed that the suspension has been stiffened to fit the kind of driving anticipated and the level of handling desired.



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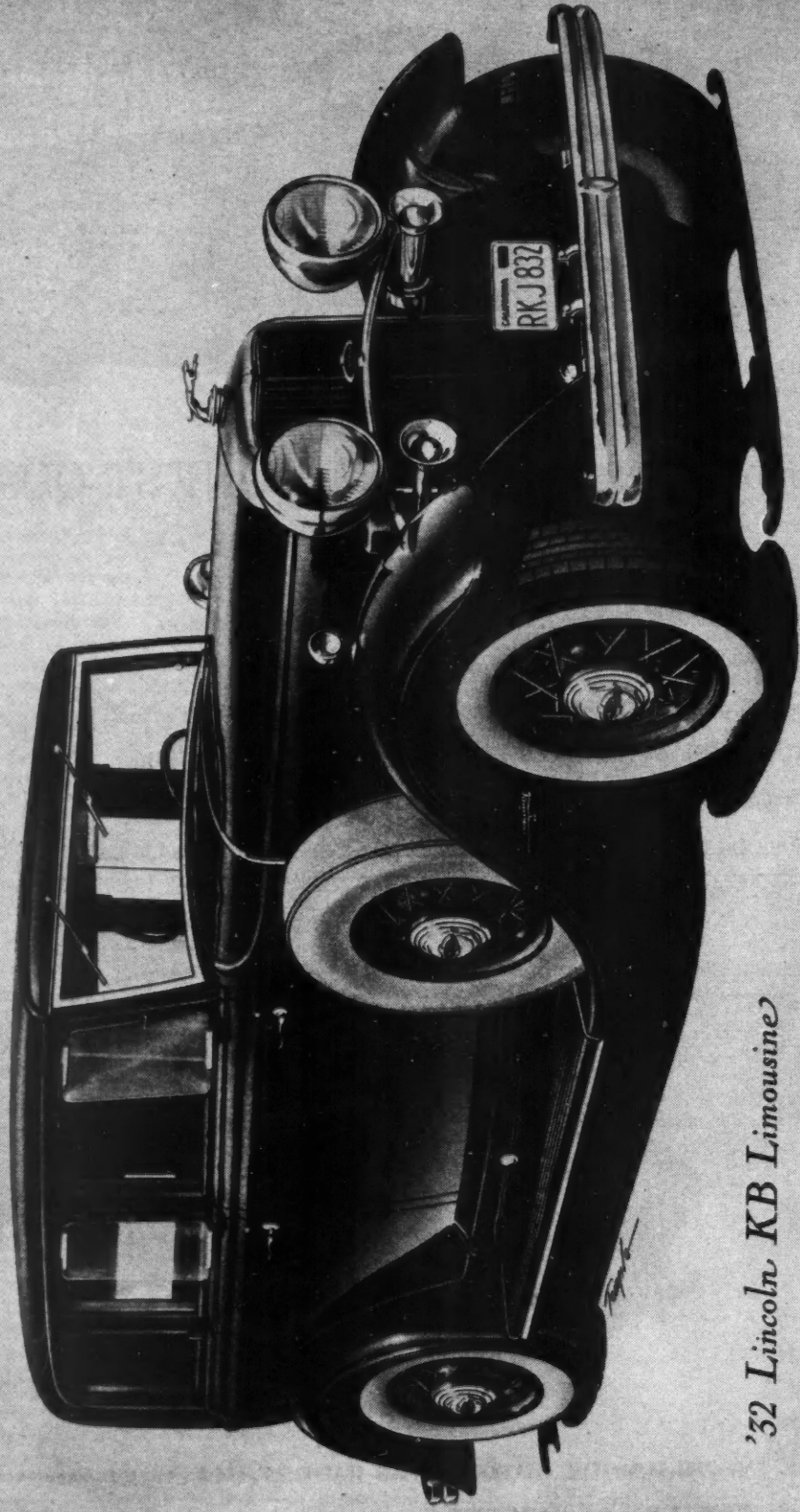
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Classic of the Month



'32 Lincoln KB Limousine

(Body by Willoughby)

by Robert J. Gottlieb, *Classic Car Editor*

THIS UNRESTORED BEAUTY, owned by Harriss and Rosalie Long of Inglewood, Calif., is the only '32 Lincoln KB Willoughby in existence. Only seven of these huge, 6000-pound vehicles were built, costing \$7800—during the Depression.

The car is absolutely original, and during the past 10 years has been driven less than 200 miles. Its 448-cubic-inch engine—the largest that Lincoln ever built—still develops a hefty 150 hp and an amazing amount of torque.

Many unusual features are offered, like the horns, for example. Depress the button on the left side and one horn blows for city use; press the right side and two horns blow for country use; punch it in the center and all horns blow for emergency use.

A Willoughby innovation is the partition glass that slides from left to right, instead of rolling up and down. It is held in proper position by a screw-type friction lock.

In addition to power brakes and free wheeling, the car has thermostatically controlled radiator shutters and hood doors. Passengers can push a button and a buzzer attracts the attention of the chauffeur; orders can be relayed through a loudspeaker mounted by the chauffeur's left knee.

As we climbed into the driver's seat for a test spin, we were amazed at the soft leather comfort, with support in just the right places. The seat is not adjustable, however, and we found insufficient room between our size 44 waist and the huge steering wheel.

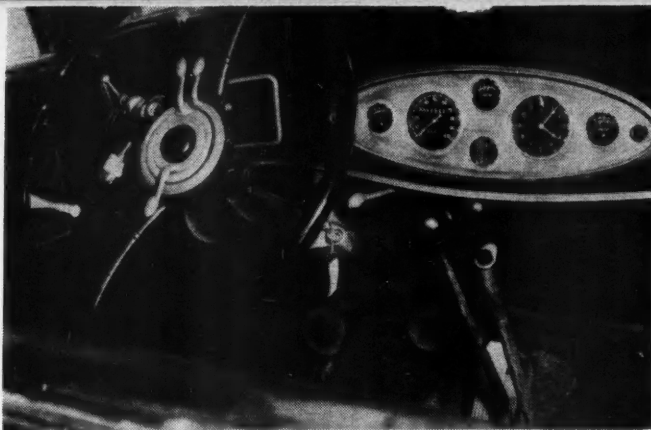
The starter motor has a distinctive low-speed grind and seems to barely turn over the engine, but within five seconds the engine roared to life. The engine needed work and was noisier than it should have been. When it came to acceleration, it was difficult to keep up with modern-day traffic. Best results were obtained by shifting from low to second at 15 mph, and from second to third at around 28 mph.

The ride was smooth, regardless of whether the bumps were large or small. Much too much body heel was noted, undoubtedly caused by the great weight and a high center of gravity. But the steering was amazing—it required only slightly more pressure than on a power-assisted car. The clutch, brake and short-throw gearshift lever were conveniently located and worked easily.

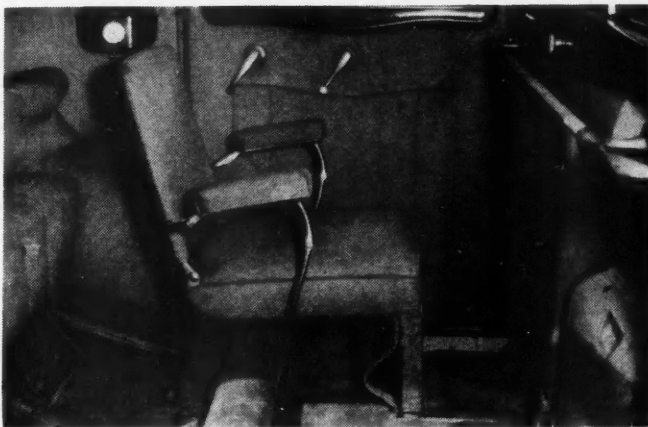
The more we drove the more we realized how comfortable those front seats were. Our expectations were exceeded, however, when we rode in the passenger compartment. We felt as if we were in a luxurious pullman car. With the possible exception of a few custom-built Packards, we have never ridden in a smoother car. And we have never sat in jump seats which were better. The upholstered armrests not only provide armchair comfort, but they also support your body on turns.

With its plush upholstery, its silver inlaid woodwork and hand-embroidered assist straps, this limousine fulfills the designer's promise of passenger comfort and elegance.

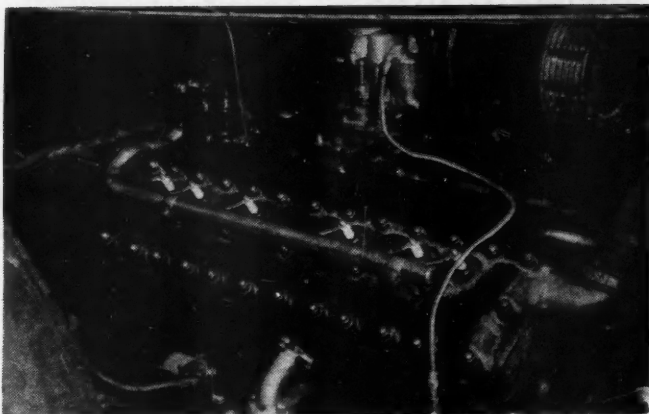
Lincoln's largest engine—12 cylinders and 448 cubic inches—was short on power but it supplied massive torque to move 6000 pounds of classic.



Dash layout is typically Lincoln; there's a glove compartment at each end. Controls on steering wheel are for spark, gas and headlights.



Rear compartment has pull-down center divider, ashtray-clock and window shades. Fold-away jump seats have comfortable armrests.



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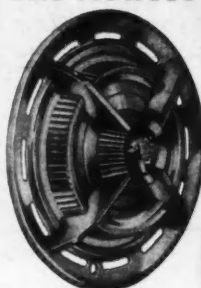
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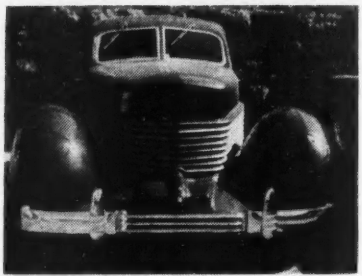
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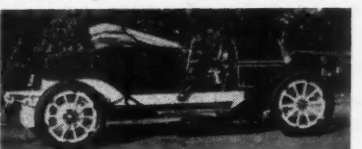
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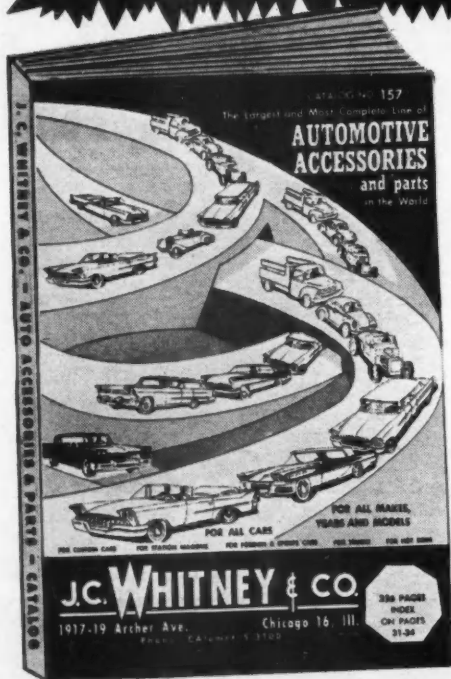


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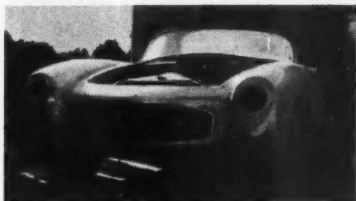


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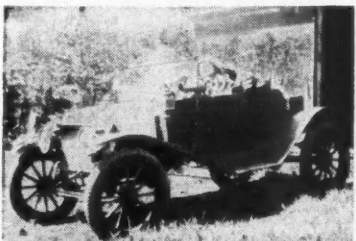


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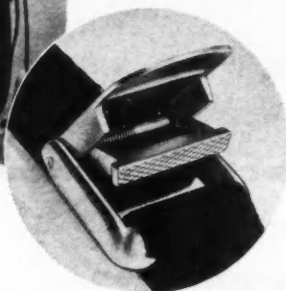
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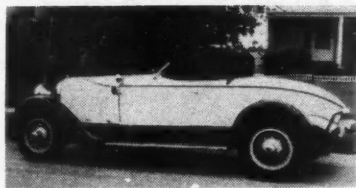
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'34 PACKARD Super 8 4-dr. sed. Radio, automatic lubrication, power brakes, ride control. Fair to good cond. thruout. Make offer. Pix & details 25c. David C. Grosvenor, 355 1/2 W. Gray St., Elmira, N.Y.
'28 AUBURN Speedster 8-cyl. 120. New paint.



uph. & top. Engine completely o'hauled. Many extra spare parts. \$2000. E. S. Flynn, 3104 W. 73rd St., Prairie Village 15, Kan.

'29 HUDSON Super 6 2-dr. sed. 41,000 mi. In running order; needs restoration. \$300 or best offer. Franklin J. Schardin, Gackle, N.D.

'41 CADILLAC Fleetwood 4-dr. sed. Body in perf. cond. but needs paint; uph. fair. Good mech. cond. Make offer. James Kenk, Rt. 1, Box 118, Boise, Idaho.

'53 BUICK Skylark conv. Full power; wire wheels with Vogue tires. Orig. owner; in mint like-new showroom cond. Write for pix & particulars. Lawrence Conte, 406 Mountain Blvd., Oakland, Calif.

'41 GRAHAM Hollywood supercharged 4-dr. sed. Rebuilt like new—white exterior, high-quality red & gray uph., new chrome. Offer around \$2500. Color pix \$1. J. Garman, Bldg. F-3-1, Slocum Heights, Syracuse 10, N.Y.

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'47 CADILLAC Fleetwood sed., with Continental spare, Hydra-Matic, brakes, valve job, fuel pump—all new last 8000 mi. Looks & runs nice; tires fair. \$850 or trade. Edwin J. Scarseth, R.F.D. #2, Galesville, Wis.

XNR "Idea" Car

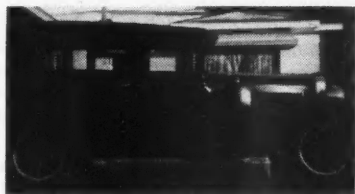
continued from page 40

protection, but they are necessary with crowded parking conditions or the slight nudge of traffic. The frame of the grille of the XNR is formed of heavy bumper stock and is so mounted that it will absorb any shock which normal passenger car bumpers will withstand. The rear bumper is also of the same material but it is shaped in the form of a modern "X," with the long horizontal side running under the rear compartment opening and the offset vertical member carried well into the finned fairing of the headrest.

Front and rear overhang are as short as possible without blunting the streamlined shape; the result is a compact, unusual automobile with a 106-inch wheelbase, just 46.04 inches high from the ground to the top of driver's windscreen. The finishing touch in a true tradition of fast machinery is the external mounting of the aluminum-coated dual mufflers and tailpipes.

While the six-cylinder powerplant has not been modified to its full poten-

'28 GRAHAM-PAIGE 4-dr. in exc. cond. thruout. \$1500 spent in restoring—factory-rebuilt engine & transmission. Drive anywhere. Trade for clean



late-model sportscar. Al Swanson, 504 7th St., Manistee, Mich.
'46 LINCOLN CONTINENTAL conv. Maroon, with white top, ww's; Olds engine. \$795 firm, or realistic trade. S. D. Swanson, R.D. #2, East Aurora, N.Y. Phone Buffalo, CYPRESS 1814.
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tial, the Chrysler line of V8s is rather impressive and compact enough to fit in some fairly small chassis. Manufacturers are just about ready to uncork more extensive use of aluminum alloys in powerplants, so we can look forward to big V-types weighing in lighter than some present small cast-iron engines.

Chrysler apparently feels that the time is ripe for some competition to the Corvette, which, incidentally, started out as a six and certainly did not suffer when the powerplant was replaced by a V8. The XNR is not a dream car, but a functional idea car. It runs without an entourage of engineers to start it or keep it going, it has all the necessary lights and mufflers required for licensing, and while its unusual appearance would undoubtedly stop traffic on the city streets, it is docile enough for city driving conditions. It is doubtful if one could be ordered, no matter what the price, and there is no commitment from Chrysler as to their future plans for this automobile. But one thing is sure—the XNR is the first step in the development of a sports machine that will eventually be offered as a production model.

—Chuck Nerpel

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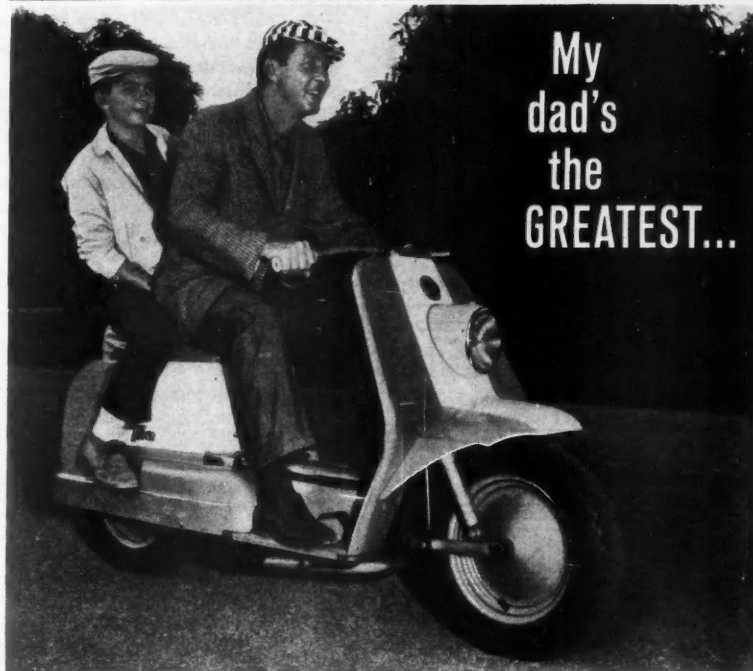
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Seat Belts

continued from page 43

Fourteen belts are not an exhaustive test, but if these are the only ones available from nine major consumer outlets in a county with more automobiles than all but six states, they are at least a darned good indicator. Of the 14 belts tested all of which were "approved," only five pulled to or over 5000 pounds, seven managed to pull the 4000 pounds recommended by the S.A.E., and two had difficulty sneaking in under the 3000-pound acceptable legal minimum.

Obviously there are a few manufacturers who make a belt with the legal minimum standard in mind, while others produce the best belt they can make. Price, to one extent, is a criterion, since most manufacturers make deluxe and premium belts and their expensive one usually tests out better than their cheaper ones. But in the case of a few manufacturers even their cheaper belts were good.

MOTOR TREND did not test every seat belt made, and probably missed out on a few fine products. This can be said of any survey. But of the belts we tested we found a few belts that exceeded the minimum standards and left a substantial safety margin to boot. As examples in the standard, or second-price-line belts, Ray Brown Automotive's Magnum model pulled to about 1¼ times the 4000-pound S.A.E. recommendation, and Tulareloft's Crash Guardian pulled to better than 1½.

Examples of best-of-the-line belts were the Jervis, which pulled about 1¼ the 4000-pound minimum; Hickok's Deluxe and Ray Brown Automotive's Imperial pulled about 1½ the minimum; Tulareloft's best model tested far in excess of 1½ the recommended minimum.

To clear up a few points, MOTOR TREND feels that all seat belt legislation should be reexamined in the light of increasing highway speeds. Belts should be marked with manufacturing date as protection against the purchase of an old belt (webbing gets weaker as it gets older.) Since the 4000-pound S.A.E. recommendation is more realistic than the 3000-pound legal minimum, any belt that pulls to 4000 pounds can be considered a good and safe belt, and any belt that goes to 5000 pounds is a deluxe-quality belt. Anything over 5000 pounds is a premium-quality product.

Telephone numbers? Not in the least. I watched a belt—admittedly not one I purchased—pulled on the bodyloop machine to over 7000 pounds, which is close to the maximum the human body

will withstand without injury. Such belts can be made but will not be unless buyers demand super-premium products and are willing to pay a fair price. We think the same motorist who pays \$50 extra for the "dress-up kit" will spend the extra dollar or so. It proves to the reputable manufacturer that we appreciate his efforts to keep us alive.

We learned a few things about safety belts that we can pass on. What seems to make any particular belt good is proper selection of the many possible components—buckles, mounting fixtures, etc., plus careful assembly. Remember, many components can be selected by manufacturers on the basis of price alone. Generally, here are a few things to keep in mind.

WEBBING: Don't judge the strength of a belt by the thickness of the webbing. Check the material used. Generally, nylon is stronger than nylon-rayon combination of the same thickness and either is stronger than cotton. A thick webbing is more comfortable and easier to use because it does not twist into a rope, and shows less tendency to slip through the floor fittings and buckle adjustment bar, though it may be a little harder to adjust. Also, beware of old-looking belts because webbing deteriorates, and be sure the dye does not run.

SEWING: Make sure there are plenty of rows of stitches, that the stitches are close together, and that the thread is strong. Nylon is a good bet.

FLOOR FITTINGS: Generally, a two-piece floor attachment fitting with tongue-and-groove is superior to the single ladder-type fitting. When properly threaded (read the directions!) the two-piece fitting will not slip. Snap-type fittings are fine, too, and they keep the belt off the floor if water is a problem. Hardness and flexibility of the metal are factors, too, but you can't evaluate this by looking. There's nothing wrong with a single belt through the flooring as long as a big washer is *under* the sheet metal. Make sure that eye-bolts are welded shut.

BUCKLES: Generally, a well made metal-to-metal buckle will be stronger than a well made metal-to-webbing buckle; but, either can be made strong enough to hold anyone before the buckle gives up. Properly installed belts with metal-to-metal buckles stay cleaner because the end nearest the door is the short end and cannot fall into the mud, but metal-to-webbing belts have a wider range of adjustment. Also, check for ease of adjustment before buying, and beware

of too-thin metal or fittings with slots cut too close to the edge. This can be a weak spot.

PRICE: Pay a fair price and be skeptical of "bargain" or unlabeled belts. If a manufacturer won't put his name prominently on his product, don't take a chance. Reliable manufacturers are constantly improving the quality of the belts in production and maintain high standards for each and every seat belt that leaves their plant. This is important, since the belt you buy may be a "lemon." Best bet is to buy from a manufacturer you can trust, or from a retailer with a reputation for selling good products because he will not sell you a "bargain."

The next time somebody tells you that all safety belts are the same, tell him he's wrong. They're not. Every belt is "approved" by some approving body, but the standards that different people use to manufacture and test the belts vary by substantial margins. Find out *who* approved the belt.

There is no comparison between a belt manufactured to conform to the barest minimum standard, and another manufactured to exceed it by 40, 50, or even 100 per cent. There have been and maybe still are a few manufacturers of "bargain" belts. They cannot be compared in any way to the reputable manufacturer who constantly seeks to improve his belt, to keep pace with steadily increasing highway speeds.

MOTOR TREND feels that legislation—as a starter—is probably the least effective yet the only apparent way to drastically reduce accident injuries. Let's make seat belt standards higher, inspection and enforcement of these standards stricter, and installation a requirement for every new car manufactured. Then, we can think about getting people to use them. For children, harnesses should be mandatory, *right now*, both for the safety of the children and the protection of other motorists threatened by distracted parents attempting to control, simultaneously, the children and the automobile. We worry about children playing in the street, but do you have any idea how many children are killed in the back seat of their father's car?

Ultimately, every car on the road will be equipped with belts, and you as an individual can help. Remember, most every seat belt you can buy is a good belt, and even one of the few marginal belts is better than no belt at all. But for your own protection—which is why you buy a belt in the first place—inspect the belt and shop quality. A safety belt is the wrong place to shop price. /MT

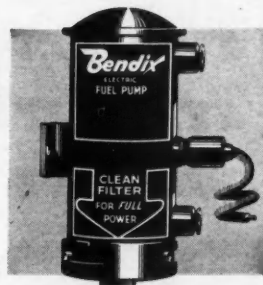


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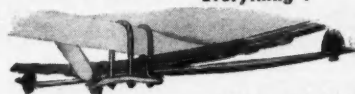
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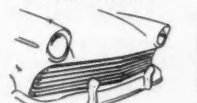
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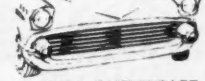
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1958 CHEVROLET



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TWO NEW STABILIZERS AID BRAKING CONTROL



Neither the Ford nor the Plymouth gave the driver a feel of control while turning to avoid the pylon with wheels all but locked up. With stabilizer unit installed, cars could be turned while stopping. If turned around the pylon, stopping distance was identical to that of stock-brake car in straight-on stop. If braked without turning, stopping distance was reduced and car stopped straight. The air chamber in the system gives about $\frac{1}{8}$ -inch pedal softness, which allows driver to control each wheel's bite.

ONE OF THE HARDEST THINGS to engineer into a braking-suspension system is steering control while the automobile is undergoing maximum deceleration short of locking up the wheels. Weight transfer from rear to front overloads the front wheels and unloads the rear, so that any irregularities at the drums will cause the car to end up sideways.

MOTOR TREND had the opportunity to test two products, both taking advantage of the same physical principles and differing only in minor aspects in their application. The principle is that brake fluid is incompressible, and provides a very slim neutral area between locked wheels and maximum deceleration. If, however, an air bubble were isolated and captive *inside* the hydraulic system, it would provide something to be compressed that would give pressure feedback (which would lock up a wheel) somewhere to go, and in addition would provide a substantial neutral zone on the pedal. Thus, the driver could control both his deceleration and his vehicle. Both these units provide a sealed-off air bubble.

TEST SETUP: Single lane with pylon set in center of lane 60 feet beyond white line that marks point of brake application at 50 mph.

PROBLEM: While braking at maximum deceleration, to turn around pylon without touching it.

TEST CARS: 1960 Ford with Do-Mor Brake Equalizer (Do-Mor Brake Engineering Co., P.O. Box 266, Orange, Calif.) and 1960 Plymouth with Safety Brake Master (Engine Imports, Inc., 1140 N. Harbor Dr., San Diego 1, Calif.).

RESULTS: Without units, drivers in each car had tremendous difficulty avoiding pylon, stopping in straight line. With units, both cars turned around pylon, stopped straight with feeling of complete control.

CONCLUSION: Both the Do-Mor Brake Equalizer and Safety Brake Master win the MOTOR TREND Seal of Approval.



MT to Test Dowgard Coolant

DOW CHEMICAL is marketing an all-weather coolant to replace water in summer, and a mixture of water and anti-freeze in the winter. Prior to releasing Dowgard, the company thoroughly researched and tested it in their own labs, then on the road.

Now, at the request of Dow Chemical, MOTOR TREND is assisting in product evaluation in actual use. Several MT vehicles, located in different sections of the

country (one a Formula Junior race car) will be filled with Dowgard and used.

The coolant is a mixture of chemically pure water, ethylene glycol, diethylene glycol and inhibitors to keep the coolant "sweet" for a year. During that year, your car will not boil over until the solution reaches 260° (in a '60 car). It will not freeze up until the temperature drops below -40°. At the end of a year, drain it out, refill with fresh solution.

We feel that Dow has taken a big step in the right direction—a sealed cooling system that requires service only once a year is progress. We also like the way Dow has laid its reputation on the line, by supplying Dowgard for test without restriction. There is an understandable tendency for a manufacturer to qualify how his product should be tested, then to qualify the qualification. We respect a big company with enough faith in its product to say, "Here it is. Go ahead and use it as you see fit."

That's what MOTOR TREND is going to do. We'll keep you posted.



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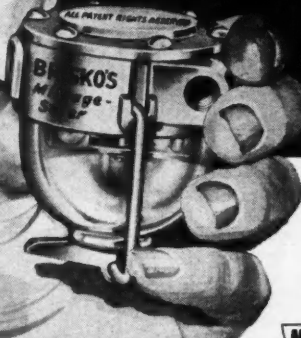
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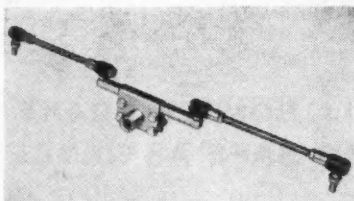
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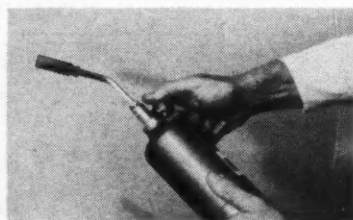


RACK-AND-PINION STEERING, four sealed ball joints and assembly hardware for Karts are available in pre-fabricated form to reduce assembly time and trouble. The new design is claimed to add quality at reduced cost. Info and prices from Superior Ball Joint Corp., Trier Rd., Fort Wayne, Ind.

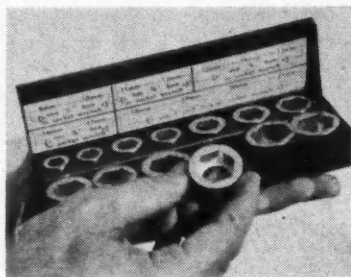
CONVERTER to run home appliances off your car battery is available from Tera-do Co., 1068 Raymond Ave., St. Paul 8, Minn. In models for 12-volt batteries, just plug into lighter for razor, radio, small drill motors, etc. Can be used with motor running or without; about 15-hour duration from battery without recharge. Rated output: 50 watts. Bigger models to 200 watts can be ordered. Ideal for trips (we've tried it), camping (we're going to), and for portable power supply far from a base plug.



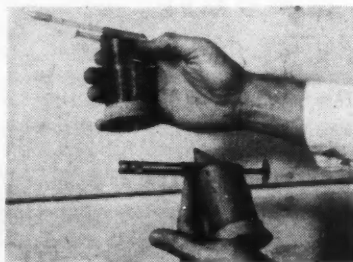
PROPANE GAS TORCH with replaceable tank finds a multitude of uses for the home mechanic—freeing frozen nuts and bolts, for major soldering operations, etc. Available in hardware, accessory stores; made by Turner Corp., 821 Park Ave., Sycamore, Ill.



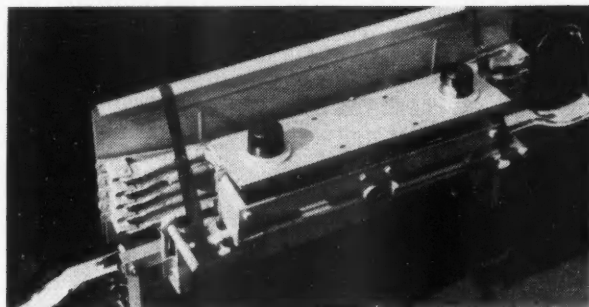
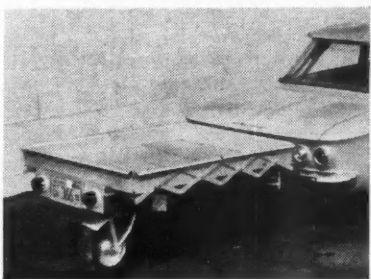
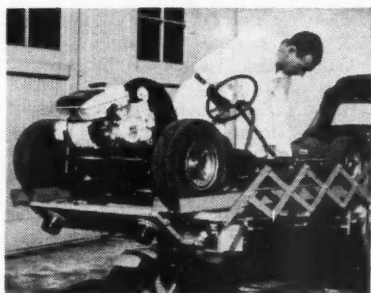
METRI-CAPS are an inexpensive supplement to an inch-size wrench set, permit its use with metric sizes. Take an American socket or box wrench, set in the adapter, and crank the metric nut on or off. Warning: it will not work with open-end wrenches, but that's the only limitation. Range from 9 to 21mm, in neat metal case. List price is \$3.95, may be purchased from Wagner Tool & Supply Corp., 1020 E. 15th St., Hialeah, Fla.



HOME LUBE KIT, consisting of grease gun and trigger-type pressure oiler, is a handy combination. Both load easily, have transparent reservoirs and pistol grips, are made of unbreakable tenite plastic. Available by mail order exclusively, at \$3.75 for both, from Foreign Car Accessories, Inc., Cold Spring, N.Y.



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A TRAILER that folds up over the bumper when you're not using it, opens up to a four-sided carrier, and even has attachments to carry a kart is certainly an unusual item. The bumper mount is custom for each car, and is attached at two points instead of the usual one. The result is that a rank amateur can back up car and trailer, since the length acts the same as long overhang.

As the pictures show, our first use of the trailer was with a Corvair. We used it to transport a load of tools from office to garage. Our second run was with trailer attached to TR-3 (borrowed from Bruck's Imports in Hollywood). We lifted a kart aboard, tied it down, and went racing. (We backed TR and cart out the long driveway with no difficulty.) Third installation was on a Falcon, where we folded the trailer and returned it to MOTOR TREND's garage.

Fold-N-Roll prices vary. Write for specifics to Award Mfg. Co., 600 W. 17th St., Costa Mesa, Calif.

Products approved this month by MT

Converter
Terado Co.
1068 Raymond Ave.
St. Paul 8, Minn.

Do-Mor Brake Equalizer
Do-Mor Brake Eng. Co.
P.O. Box 266
Orange, Calif.

Fold-N-Roll Trailer
Award Mfg. Co.
600 W. 17th St.
Costa Mesa, Calif.



Home Lube Kit
Foreign Car Accessories, Inc.
Cold Spring, N.Y.

The products listed below have been awarded the MOTOR TREND Seal of Approval. Each has been inspected and tested against its advertising claims and for quality of material and workmanship.

Metri-Caps
Wagner Tool & Supply Corp.
1020 E. 15th St.
Hialeah, Fla.

Propane Gas Torch
Turner Corp.
821 Park Ave.
Sycamore, Ill.

Safety Brake Master
Engine Imports, Inc.
1140 N. Harbor Dr.
San Diego 1, Calif.



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"I RODE WITH THE FREEWAY PATROL!"

continued from page 48

"It was as though he'd been squeezed out of a toothpaste tube . . . the way that jumper shot out of the driver-side window," Wheatley recalled. "He sort of jack-in-the-boxed 30 feet into the air . . . and came down head first."

"We had three bodies that night," Mac winced, "the three riding the head-on car's front seat. The jumper? He lived. But don't ask me how."

What worried McMillen was the sudden rash of freeway fires . . . "high octane fires," he called them. Rear-ended, cars seemed to ignite like kindling. Just the week before a guy, inbound on the Pasadena freeway, had jumped into the outbound lane. Traffic, somehow, had managed to stop. But a fellow 80-mile-an-houring it from the rear, hadn't. He plowed into a stopped car. The impact pinned an elderly woman in the wreckage. Frantically, her husband worked to free her. Suddenly there'd been a "swoosh" of flame . . . and fiery death.

"Not another driver even got out of his car," Mac gestured angrily. "Nobody helped the old man. A couple of huskies might have freed her. The idiots just sat there . . . and watched her burn. Damned if I can understand people like that."

In the back seat, I was about convinced that freewayers were nuts. Even at night, they were driving bunched up, one tailing another . . . as though they liked the close-quarter company.

"Let one guy stomp on a brake," Mac said, making a knife-across-the-throat sign, "and we'll be putting in a call to the morgue."

Another freeway species—a certified nut—was the lone-wolf, the fellow who jack-rabbit ahead of the pack. How he took the lead didn't much matter. If it meant a little high-speed lane-changing, that was apparently cricket . . . so long as he got out front. In the process, he outran his own lights. Inevitably, of course, he found himself tail-ending the pack just ahead, but not for long if he could figure some way to squeeze through again.

From the high vantage of an on-ramp (a favorite lurking place for the men who patrol the freeways), we'd cut a couple of these breakaway artists down to legal speed. To do it, we'd hit 100 on one occasion and 90 on another.

The second jack rabbit we beamed was the picture of embarrassment . . . not because he'd been pushing 85, but because he'd been tagged. Mac, using his spotlight for a lamp and the inter-

ceptor's hood as a desk, was writing the guy when the call came in.

"2T96 . . . accident . . . Harbor Freeway and detour . . . Code 2," the radio crackled.

"That's us," Mac said, and turned back to the violator.

"Mister," he told the guy, "I ought to stand here and lecture you. But we've got a call. Now for Pete's sake, will you take it easy the rest of the way?"

Seconds later we were locked in, wheeled around and headed for the accident.

"Bad one," Wheatley said, as the radio confirmed, "Fire Company No. 3, out to Harbor and detour."

Mac was working the wheel, not saying anything, just driving . . . and keeping her on the freeway as, without red light or siren, he scrambled fast toward trouble . . . and worse.

Twice more before we got within sight of the flames, the radio came on. "Ambulance . . . out to Harbor accident . . ." And then, the stringent voice of the communications center's signal officer.

"This is a Sig Alert from the Los Angeles Police Department. Motorists are warned of an accident on the Harbor Freeway, closing all outbound lanes. Alternate routes are advised. Duration: one hour." The bulletin, I knew, was being carried simultaneously by every local radio station . . . and beaming into thousands of cars streaming toward the accident and tie-up. From a mile off I could see flames licking the night. This was a bad one . . . real bad. And more than I'd bargained for.

"2T98's handling," Wheatley said tensely, as we turned off the freeway. For already traffic was backed up a mile behind the accident. To reach it, we'd have to take a side street, work ahead of things. Mac gunned down darkened streets, keeping an eye on the fire. We charged upramp and, red light warning the way behind us, backed half a mile down the deserted outbound lanes.

"Can't get too close," Don rasped, as he pocketed his six-celled light and shouldered a case of flares.

"You're on your own," Mac shouted at me over his shoulder, as he jogged toward the wreckage where half a dozen fire trucks were already at work.

The thing was unreal. In the bilious red glare of a hundred flares two cars were burning fiercely. A third lay crumpled just beyond fire's reach. Like

continued on page 86

A FAINT, HIGH-PITCHED WHINE and the mellow tones of its dual-exhaust system were the only indications of something special under the engine compartment hatch of the white Corvair that wheeled out of the Paxton Supercharger Co. research garage in Santa Monica, Calif. Joe Granatelli, one of three brothers comprising the firm that manufactures centrifugal superchargers, was at the wheel, on his way to Riverside International Raceways to meet the MOTOR TREND road test crew for acceleration and top speed runs, fuel mixture experiments and final tests on the Corvair blower kit.

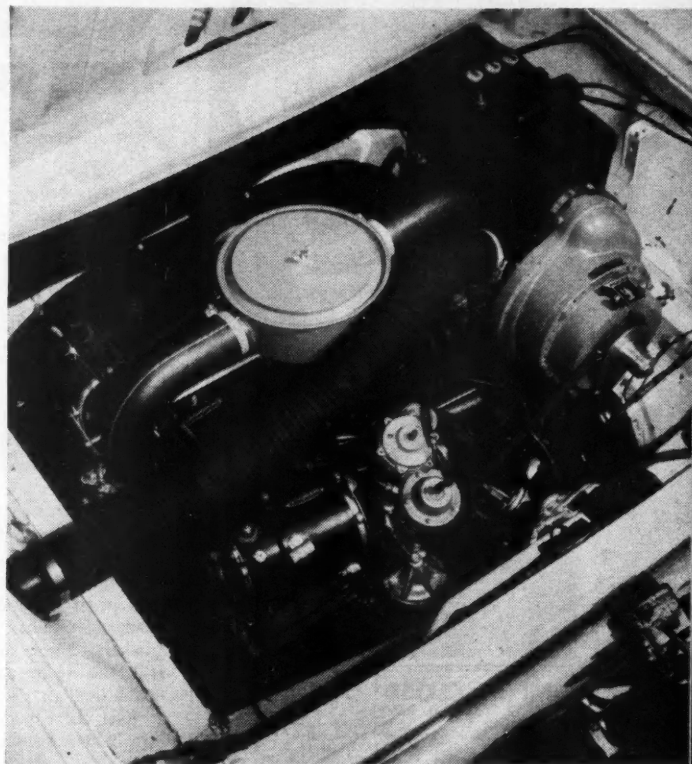
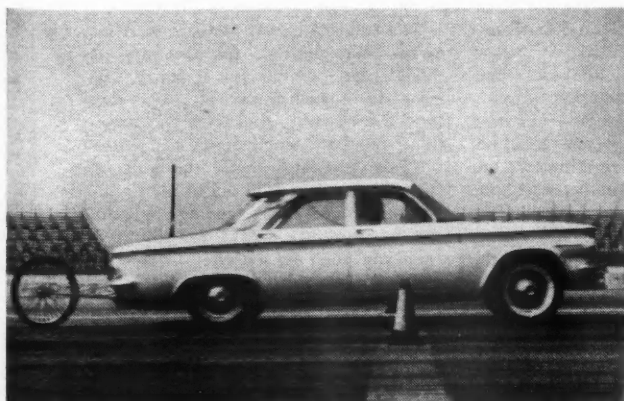
Knowing that performance potentials of supercharging would be limited by hydraulic valve lifters and rather widely spaced ratios of a three-speed gearbox, Paxton launched their experiments aimed at solving the problems of air ducting, belt drive, blower mounting, and fuel pressures and mixtures against the time when the Corvair engine would be available with solid lifters and four-speed gearbox.

Early experiments ran from special air intake grilles to double-pulley drives that made the Corvair engine compartment look like a plumber's nightmare. Hundreds of man-hours later, the present system was evolved. A standard SN-type Paxton unit with left-hand rotation and fixed-ratio drive is spring-mounted on the right rear of the engine compartment. The springs ease mounting and insure constant and uniform belt tension without an idler pulley. Cool outside air is taken in from high in the left rear wheel well through an oilbath air filter and piped with flexible hose to the blower intake. Output pressurized air is similarly piped to the conventional aircleaner intake through a small special fitting. Removal of the air filter element and sealing the cover with an aluminum plate provide an air distributing chamber for each of the widely spaced carburetors.

A single Ford generator V belt, driven from a stock Corvair pulley bolted on to the face of the regular lower pulley, drives the blower impeller at 41,000 rpm at 5000 rpm engine speed. Carburetor jets were increased 10 per cent, and it was necessary to enlarge the float bowl vents slightly. A Paxton fuel-pressure regulator, cleverly inserted so as not to interfere with gasoline heater operation, provides five pounds fuel pressure at idle and 15 pounds at maximum blower boost which insures an adequate supply of fuel through the entire blower pressure range.

Preliminary fuel consumption tests, which are difficult to conduct while experimenting with jet sizes, indicate that average driving should produce about the same mpg as the unblown stock engine. While exhaust back pressure is no problem using the stock headers and a dual-muffler system built by Bill Corey,

More Air for the Corvair



Blower unit designed for left hand impeller rotation has spring mounts to maintain constant drive belt tension.

Paxton is currently planning to experiment with a custom header and exhaust in connection with future tests with a different cam and solid lifters.

The test Corvair was the identical car that MOTOR TREND had driven from Detroit in a cross-country road test, so we had stock performance figures on hand for this particular car. Maximum top speed we had been able to attain was 88 mph, but the blower increased this to an easy 95 at 4800 rpm, at which point the car just gave up, suffering from hydraulic valve lifter float. It had taken 24.0 seconds to accelerate from 50 to 80 mph, but the blower made 0 to 80 possible in 30.5 seconds. In quarter-mile acceleration there was a gain from 22.2 seconds and 61.3 mph to 19.7 seconds and 68 mph. Zero to 60 improved from 21.2 to 15.8 seconds with an unknown potential possible when higher rpm's are available with solid lifters. The effect of valve float at 4800 rpm is just like turning off the ignition key, and this, of course, governed the shift points which were much too low for good 1/4-mile runs.

Under ordinary driving conditions the blower effect was most noticeable. Lugging out from 6 mph in high gear is effortless with no bucking or pinging under full throttle. Cruising speed operation is quiet and smooth, and at maximum or minimum rpm the engine seems much smoother than the unblown stocker.

Paxton's boss-man Andy Granatelli is running cost estimates now, aiming at a modest price based on quantity production, but the next step, now that they are available, is to run tests with solid lifters. By overcoming this valve float problem, rpm's in the 6000 range with nine or 10 pounds of boost should be possible and reasonably safe and could raise the top speed of the Corvair to 120 mph.

The blower takes about four to six hp, and the engine runs as cool as if unblown.

—Chuck Nerpel, Technical Editor

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"I RODE WITH THE FREEWAY PATROL!"

continued from page 84

black phantoms, hose brigades worked from three sides of the inferno. McMullen and Wheatley—"assisting" on this one—worked back toward traffic, laying a trail of flares. An ambulance wailed up, loaded and screamed into the night. A man hunched dazedly beside the unburnt car. Patiently, Wheatley was piecing his story together.

"This Buick," the man mumbled through lips trembling with shock, "comes over the divider . . . doing 80 . . . it must have been 80 at least."

The jumper had hit two cars head-on, set one of them and himself afire.

The gawkers were pressing in now . . . some with flash cameras . . . neighborhood folk up to a gander . . . a fat man in overalls nonchalantly chewing a dead cigar. They were vultures, those gawkers. There was a corpse in that still-burning car and they knew it. They could smell it.

"Get those people back!" a fire captain bellowed, as he played his light on the wreck.

"Jeez!" the cigar-chomper gasped, as the light bathed what was left of the jumper.

It took 10 ambulance men and cops, working with white sheets, to get him out of there . . . a piece at a time. That's when the cop heaved. He stood there, the guy's cooked arm in his hand and heaved.

Once they'd got the remains out, the wreckers went to work, clearing the freeway. Get the lanes open . . . get traffic moving. That was the aim. Two lanes were moving when we piled back into the interceptor and headed for the garage where they'd taken the wrecks.

"Don't even know yet who the guy is," Mac said mutely. "Just a burnt piece of meat and a burnt-out wreck. But somewhere there's a wife . . . and maybe a houseful of kids. And that charred hunk of meat is a father . . . and husband. Makes you sick, doesn't it?"

I sat there doing some thinking . . . and trying hard to forget. One minute a guy's driving the freeway. The next—he's over the barricade, skidding 300 feet, his wheels churning air. Five minutes more and he's burnt meat. Another half-hour and he's shoveled into the morgue's cold box. The freeway's clear. Traffic's moving. And idiots are pounding over the spot, hard-heeling their pedals, where a half-hour before a guy cooked in his own juices.

"There's some justice though," Wheatley said, "Least this time the jumper got

it. Too often he ends up without a scratch while some innocent does the roasting."

The freeway was a no-man's land, for sure. And real woolly. Mac recalled how once a runaway wheel, tire and all, had bowled down three lanes, clobbering six cars. You'd figure it wouldn't be hard to spot the car that has lost it. But they never did locate the car. Just an anonymous wheel . . . that snuffed out three lives and junked five cars.

Once, before dawn edged the east, we caught a guy backing down the slow lane. He'd missed a ramp. And barely missed being rear-ended by the Olds wheeling behind him. His trouble lay on the seat beside him: a fifth of high-proof stuff.

"If you don't pass this test," Mac told him, as he chalked a line down the shoulder, "we're going to garage both you and the car."

"But I gotta have the car," the guy said, turning to me. He figured I was a plain-clothesman, or something, "Got four kids to feed. Without a car, I'm dead."

"You were almost dead . . . with it," I told him.

But the night air and Mac's chill words sobered him. He walked that line like a true performer.

"Can't hold him," Don gestured dismally, "an open bottle doesn't prove much in court. You've got to catch him sipping."

It wasn't the bottle that bothered me . . . as much as the fact that the guy couldn't read or write. Yet he was barreling the freeways, an eye on the road, the other trying to decipher those directional signs . . . one painful letter at a time. It wasn't hard to figure how he'd missed the off-ramp. Nor hard to see how a clown like that might end up in-bound on the outbound lanes. Potentially, he was a killer . . . and the weapon he packed was loaded with 150 hp.

The hamburger was Mac's idea. After seven hours busting the freeways, it should have set solid. But it didn't. The meat was seared black . . . like that jumper back there. And there was something about the smell of it . . .

"Take it away," I told the waitress. "Get that hunk of stuff out of my sight."

Mac grinned, understandingly. "Patrol the freeways five years," he shrugged, "and you don't let a guy . . . like that . . . spoil your eating. If you did . . . you'd starve to death."

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NOW THAT THE ROAR of the surf has taken over again from the roar of speeding automobiles at Daytona Beach, attention is beginning to focus more brightly on the coming 500-mile race at Indianapolis, where a field of more than 60 cars is expected to battle for the 33 starting positions open to the fastest qualifiers.

Speedway president Tony Hulman announced receipt of the first official entry on Jan. 14th, and added that at least 60 more were expected before the Apr. 15th deadline. Nine of these will be new automobiles including a new Watson-built machine for Rodger Ward, last year's winner and current record-holder. According to Hulman's announcement, the first signed entry to reach his desk came from owner Bill Forbes of Chicago, who named Bobby Grim to pilot his new Forbes Special in the coming classic. The new mount currently is under construction at Indianapolis in the shop of builder Wally Meskowski, with the aid of mechanic Frank "Stogie" Glidden. This will mark Grim's second appearance at Indianapolis. Coming from the dirt tracks last year, where he was IMCA champion four times, Grim qualified the Sumar Special at better than 144 mph and went on to win "Rookie of the Year" honors in the race.

In addition to the car he is building for Ward's capable hands, builder A. J. Watson is constructing four other machines patterned after the Leader Card Special he built and groomed for Ward's victory drive a year ago. All five are designed to carry their engine in the conventional straight-up position while builder George Salih, who instigated the "lay-over" engine design on his 1957-'58 mount, is holding to that design on a new car he is building for Jimmy Bryan.

With Ward and Bryan assured of new mounts for this year's grind, at least one other former winner has tossed his helmet into the ring of Victory Lane hope-

fuls. He is Troy Ruttman, 1952 winner, who was reinstated with the USAC earlier this year following a suspension for conduct detrimental to auto racing. Ruttman will drive the John Zink Special in which Pat Flaherty led a portion of the 1959 race. It will be his first appearance at the Speedway since 1957. Flaherty, winner of the 1956 classic, was expected to sign for a mount before entries close on Apr. 15th, bringing the field of former winners to four.

A new car, similar to the one with which Johnny Thomson set a new one-lap record of 146.532 mph last May, is under construction by Lujie Lesovsky, noted West Coast builder, who will also serve as the car's chief mechanic. The mount, to be known as the Kelso Auto Dynamics Special, will be driven by veteran Jack Turner. Its engine will be laid over on its right side, and the driver will sit on the left.

There are no specification changes for this year's race. For the fourth year, non-supercharged powerplants will be limited to 256.284 cubic inches (4200cc) while supercharged engines are held to a 170.856-cubic-inch maximum. Although a diesel engine has not been used at Indianapolis since 1952, the rules still permit them with a limitation of 335.61 cubic inches.

Ticket order forms, showing the price and location of all reserved seats still available for the race, may be obtained by writing the Indianapolis Motor Speedway at Speedway, Ind.

IN ITS ANNUAL MEETING to discuss plans for the new season, the United States Auto Club (USAC) came up with some interesting recommendations for stock car racing. Some of the changes recommended were: restricting changes in appearance of the automobiles for safety reasons only; permitting only engines designed by factory specifications for the particular year and model; making shoulder harnesses mandatory; and *not* permitting pit stops during a yellow caution period. The latter seems a bit far-fetched since it would be practically impossible to enforce with fairness to all competitors.

In a concentrated effort toward more rigid safety precautions, the USAC Board has provided an accident investigation committee which will conduct a thorough investigation of all accidents resulting in injury to drivers or others or in major damage to cars. They will attempt to determine the cause, issue a preliminary report and catalog the information for use in preventing future similar accidents.

Some of the new safety rules adopted

at the meeting included the mandatory installation of rear bumpers on all championship or Indianapolis-type cars; covering fuel tanks with fiberglass on the front, bottom and around all mounting areas; and the use of a three-inch nylon seat belt meeting with FAA specifications, with a quick-opening clasp.

THE CAR in which Britain's Don Campbell intends to have a crack at breaking John Cobb's record is being built in hush-hush conditions at a secret hideout. "We don't want to go off at half-cock," one of the Campbell team told us. "We want the car built and at least looking right before we start talking about what it is like and what we hope it will do."

Campbell's car—to be known as the Proteus-Campbell Bluebird—has been designed by Ken and Lou Norris, the brothers who also designed his record-breaking speedboat. Construction began last November and Campbell confidently expects the car to be finished by the end of May.

While secrecy surrounds the exact stage construction has reached, the following are the known specifications of the car:

Overall length 30 ft.; width 8 ft.; height 4 ft. 9 ins.; wheelbase 13 ft. 6 ins.; track 5 ft. 6 ins.; weight 4 tons; four-wheel drive; fully independent suspension. Power unit—single Bristol Proteus 705 gas turbine developing 4100 bhp. Tires—Dunlop interwoven-web 4-ply, 52-in. diameter x 8¼-in. section. Brakes—disc, air and parachute to dissipate 75 million lbs.-ft. energy. Fuel—B.P. Avtur, 25 gals. capacity.

The Dunlop Co. are still experimenting and testing tires they are developing especially for Campbell's record attempt. Experiments have been concentrated upon producing a treadless tire with a rubber coating less than 1/50th of an inch thick.

The car will have no gearbox, as such. Instead, it will be fitted with an automatic system for acceleration and deceleration.

When the car is completed—at the end of May or beginning of June—it will have a test run on the airfield runway at Filton, near Bristol, England.

"Of course the runway isn't long enough for the car to go anywhere near its top speed," Campbell's manager told us, "but we shall see that all the working parts do work."

As plans stand at present, the new Bluebird will be shipped to the States in July ready for its test run at Bonneville in August or perhaps September, according to weather conditions at the time.



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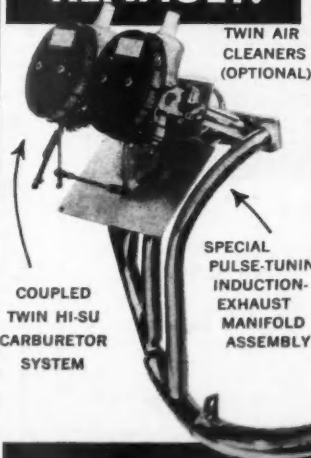
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... he called the 1960 1/2 car, seemed to ignite like kindling, just the week before a guy, inbound on the Pasadena freeway, had jumped into the outbound lane. Traffic, somehow, had managed to stop. But a fellow 80-mile-an-houring it from the rear, hadn't. He plowed into a stopped car. The impact pinned an elderly woman in the wreckage. Frantically, her husband worked to free her. Suddenly there'd been a "swosh" of flame and fiery death.

"Not another driver even got out of his car," Mac gestured angrily. "Nobody helped the old man. A couple of huskies might have freed her. The idiots just sat there ... and watched her burn. Damned if I can understand people like that."

In the back seat, I was about convinced that freeway drivers were nuts. Even at night, they were driving bunched up, one tailing another ... as though they liked the close-quarter company.

"Let one guy stomp on a brake," Mac said, making a knife-across-the-throat sign, "and we'll be putting in a call to the morgue."

Another freeway species—a certified nut—was the lone-wolf, the fellow who jack-rabbit ahead of the pack. How he took the lead didn't much matter. If it meant a little high-speed lane-changing, that was apparently cricket ... so long as he got out front. In the process, he outran his own lights. Inevitably, of course, he found himself tail-ending the pack just ahead, but not for long if he could figure some way to squeeze through again.

From the high vantage of an on-ramp (a favorite lurking place for the men who patrol the freeways), we'd cut a couple of these breakaway artists down to legal speed. To do it, we'd hit 100 on one occasion and 90 on another.

The second jack rabbit we beamed was the picture of embarrassment ... not because he'd been pushing 85, but because he'd been tagged. Mac, using his spotlight for a lamp and the inter-

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"Bad one," Wheatley said, as the radio confirmed, "Fire Company No. 3, out to Harbor and detour."

Mac was working the wheel, not saying anything, just driving ... and keeping her on the freeway as, without red light or siren, he scrambled fast toward trouble ... and worse.

Twice more before we got within sight of the flames, the radio came on. "Ambulance ... out to Harbor accident ... And then, the stringent voice of the communications center's signal officer.

"This is a Sig Alert from the Los Angeles Police Department. Motorists are warned of an accident on the Harbor Freeway, closing all outbound lanes. Alternate routes are advised. Duration: one hour." The bulletin, I knew, was being carried simultaneously by every local radio station ... and beaming into thousands of cars streaming toward the accident and tie-up. From a mile off I could see flames licking the night. This was a bad one ... real bad. And more than I'd bargained for.

"2T98's handling," Wheatley said tensely, as we turned off the freeway. For already traffic was backed up a mile behind the accident. To reach it, we'd have to take a side street, work ahead of things. Mac gunned down darkened streets, keeping an eye on the fire. We charged upramp and, red light warning the way behind us, backed half a mile down the deserted outbound lanes.

"Can't get too close," Don rasped, as he pocketed his six-celled light and shouldered a case of flares.

"You're on your own," Mac shouted at me over his shoulder, as he jogged toward the wreckage where half a dozen fire trucks were already at work.

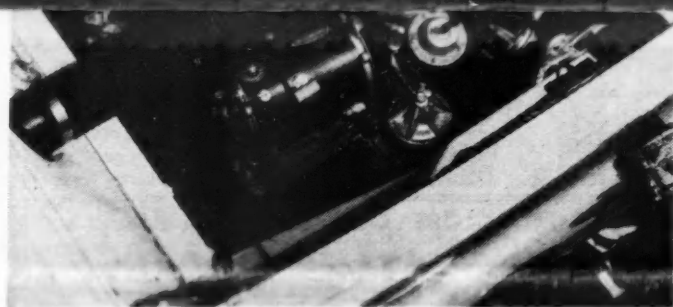
The thing was unreal. In the bilious red glare of a hundred flares two cars were burning fiercely. A third lay crumpled just beyond fire's reach. Like

continued on page 86

was evolved. A standard SN-type Paxton unit with reversed rotation and fixed-ratio drive is spring-mounted on the right rear of the engine compartment. The springs ease mounting and insure constant and uniform belt tension without an idler pulley. Cool outside air is taken in from high in the left rear wheel well through an oilbath air filter and piped with flexible hose to the blower intake. Output pressurized air is similarly piped to the conventional aircleaner intake through a small special fitting. Removal of the air filter element and sealing the cover with an aluminum plate provide an air distributing chamber for each of the widely spaced carburetors.

A single Ford generator V belt, driven from a stock Corvair pulley bolted on to the face of the regular lower pulley, drives the blower impeller at 41,000 rpm at 5000 rpm engine speed. Carburetor jets were increased 10 per cent, and it was necessary to enlarge the float bowl vents slightly. A Paxton fuel-pressure regulator, cleverly inserted so as not to interfere with gasoline heater operation, provides five pounds fuel pressure at idle and 15 pounds at maximum blower boost which insures an adequate supply of fuel through the entire blower pressure range.

Preliminary fuel consumption tests, which are difficult to conduct while experimenting with jet sizes, indicate that average driving should produce about the same mpg as the unblown stock engine. While exhaust back pressure is no problem using the stock headers and a dual-muffler system built by Bill Corey,



Blower unit designed for left hand impeller rotation has spring mounts to maintain constant drive belt tension.

Paxton is currently planning to experiment with a custom header and exhaust in connection with future tests with a different cam and solid lifters.

The test Corvair was the identical car that MOTOR TREND had driven from Detroit in a cross-country road test, so we had stock performance figures on hand for this particular car. Maximum top speed we had been able to attain was 88 mph, but the blower increased this to an easy 95 at 4800 rpm, at which point the car just gave up, suffering from hydraulic valve lifter float. It had taken 24.0 seconds to accelerate from 50 to 80 mph, but the blower made 0 to 80 possible in 30.5 seconds. In quarter-mile acceleration there was a gain from 22.2 seconds and 61.3 mph to 19.7 seconds and 68 mph. Zero to 60 improved from 21.2 to 15.8 seconds with an unknown potential possible when higher rpm's are available with solid lifters. The effect of valve float at 4800 rpm is just like turning off the ignition key, and this, of course, governed the shift points which were much too low for good 1/4-mile runs.

Under ordinary driving conditions the blower effect was most noticeable. Lugging out from 6 mph in high gear is effortless with no bucking or pinging under full throttle. Cruising speed operation is quiet and smooth, and at maximum or minimum rpm the engine seems much smoother than the unblown stocker.

Paxton's boss-man Andy Granatelli is running cost estimates now, aiming at a modest price based on quantity production, but the next step, now that they are available, is to run tests with solid lifters. By overcoming this valve float problem, rpm's in the 6000 range with nine or 10 pounds of boost should be possible and reasonably safe and could raise the top speed of the Corvair to 120 mph.

The blower takes about four to six hp, and the engine runs as cool as if unblown.

—Chuck Nerpel, Technical Editor

MOTOR TREND/MAY 1960 85

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"I RODE WITH THE FREEWAY PATROL!"

continued from page 84

black phantoms, hose brigades worked from three sides of the inferno. McMullen and Wheatley—"assisting" on this one—worked back toward traffic, laying a trail of flares. An ambulance wailed up, loaded and screamed into the night. A man hunched dazedly beside the unburnt car. Patiently, Wheatley was piecing his story together.

"This Buick," the man mumbled through lips trembling with shock, "comes over the divider . . . doing 80 . . . it must have been 80 at least."

The jumper had hit two cars head-on, set one of them and himself afire.

The gawkers were pressing in now . . . some with flash cameras . . . neighborhood folk up for a gander . . . a fat man in overalls nonchalantly chewing a dead cigar. They were vultures, those gawkers. There was a corpse in that still-burning car and they knew it. They could smell it.

"Get those people back!" a fire captain bellowed, as he played his light on the wreck.

"Jeez!" the cigar-chomper gasped, as the light bathed what was left of the jumper.

It took 10 ambulance men and cops, working with white sheets, to get him out of there . . . a piece at a time. That's when the cop heaved. He stood there, the guy's cooked arm in his hand and heaved.

Once they'd got the remains out, the wreckers went to work, clearing the freeway. Get the lanes open . . . get traffic moving. That was the aim. Two lanes were moving when we piled back into the interceptor and headed for the garage where they'd taken the wrecks.

"Don't even know yet who the guy is," Mac said mutely. "Just a burnt piece of meat and a burnt-out wreck. But somewhere there's a wife . . . and maybe a houseful of kids. And that charred hunk of meat is a father . . . and husband. Makes you sick, doesn't it?"

I sat there doing some thinking . . . and trying hard to forget. One minute a guy's driving the freeway. The next—he's over the barricade, skidding 300 feet, his wheels churning air. Five minutes more and he's burnt meat. Another half-hour and he's shoveled into the morgue's cold box. The freeway's clear. Traffic's moving. And idiots are pounding over the spot, hard-heeling their pedals, where a half-hour before a guy cooked in his own juices.

"There's some justice though," Wheatley said, "Least this time the jumper got

it. Too often he ends up without a scratch while some innocent does the roasting."

The freeway was a no-man's land, for sure. And real woolly. Mac recalled how once a runaway wheel, tire and all, had bowled down three lanes, clobbering six cars. You'd figure it wouldn't be hard to spot the car that has lost it. But they never did locate the car. Just an anonymous wheel . . . that snuffed out three lives and junked five cars.

Once, before dawn edged the east, we caught a guy backing down the slow lane. He'd missed a ramp. And barely missed being rear-ended by the Olds wheeling behind him. His trouble lay on the seat beside him: a fifth of high-proof stuff.

"If you don't pass this test," Mac told him, as he chalked a line down the shoulder, "we're going to garage both you and the car."

"But I gotta have the car," the guy said, turning to me. He figured I was a plain-clothesman, or something, "Got four kids to feed. Without a car, I'm dead."

"You were almost dead . . . with it," I told him.

But the night air and Mac's chill words sobered him. He walked that line like a true performer.

"Can't hold him," Don gestured dismally, "an open bottle doesn't prove much in court. You've got to catch him sipping."

It wasn't the bottle that bothered me . . . as much as the fact that the guy couldn't read or write. Yet he was barreling the freeways, an eye on the road, the other trying to decipher those directional signs . . . one painful letter at a time. It wasn't hard to figure how he'd missed the off-ramp. Nor hard to see how a clown like that might end up in-bound on the outbound lanes. Potentially, he was a killer . . . and the weapon he packed was loaded with 150 hp.

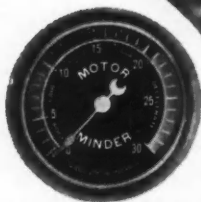
The hamburger was Mac's idea. After seven hours busting the freeways, it should have set solid. But it didn't. The meat was seared black . . . like that jumper back there. And there was something about the smell of it . . .

"Take it away," I told the waitress.

"Get that hunk of stuff out of my sight." Mac grinned, understandingly. "Patrol the freeways five years," he shrugged, "and you don't let a guy . . . like that . . . spoil your eating. If you did . . . you'd starve to death."

And you would . . . along the nation's freeways, toll roads and turnpikes.

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S P MOTOR R T S

BY
BOB
RUSSO

NOW THAT THE ROAR of the surf has taken over again from the roar of speeding automobiles at Daytona Beach, attention is beginning to focus more brightly on the coming 500-mile race at Indianapolis, where a field of more than 60 cars is expected to battle for the 33 starting positions open to the fastest qualifiers.

Speedway president Tony Hulman announced receipt of the first official entry on Jan. 14th, and added that at least 60 more were expected before the Apr. 15th deadline. Nine of these will be new automobiles including a new Watson-built machine for Rodger Ward, last year's winner and current record-holder. According to Hulman's announcement, the first signed entry to reach his desk came from owner Bill Forbes of Chicago, who named Bobby Grim to pilot his new Forbes Special in the coming classic. The new mount currently is under construction at Indianapolis in the shop of builder Wally Meskowski, with the aid of mechanic Frank "Stoogie" Glidden. This will mark Grim's second appearance at Indianapolis. Coming from the dirt tracks last year, where he was IMCA champion four times, Grim qualified the Sumar Special at better than 144 mph and went on to win "Rookie of the Year" honors in the race.

In addition to the car he is building for Ward's capable hands, builder A. J. Watson is constructing four other machines patterned after the Leader Card Special he built and groomed for Ward's victory drive a year ago. All five are designed to carry their engine in the conventional straight-up position while builder George Salih, who instigated the "lay-over" engine design on his 1957-'58 mount, is holding to that design on a new car he is building for Jimmy Bryan.

With Ward and Bryan assured of new mounts for this year's grind, at least one other former winner has tossed his helmet into the ring of Victory Lane hope-

fuls. He is Troy Ruttman, 1952 winner, who was reinstated with the USAC earlier this year following a suspension for conduct detrimental to auto racing. Ruttman will drive the John Zink Special in which Pat Flaherty led a portion of the 1959 race. It will be his first appearance at the Speedway since 1957. Flaherty, winner of the 1956 classic, was expected to sign for a mount before entries close on Apr. 15th, bringing the field of former winners to four.

A new car, similar to the one with which Johnny Thomson set a new one-lap record of 146.532 mph last May, is under construction by Lujie Lesovsky, noted West Coast builder, who will also serve as the car's chief mechanic. The mount, to be known as the Kelso Auto Dynamics Special, will be driven by veteran Jack Turner. Its engine will be laid over on its right side, and the driver will sit on the left.

There are no specification changes for this year's race. For the fourth year, non-supercharged powerplants will be limited to 256.284 cubic inches (4200cc) while supercharged engines are held to a 170.856-cubic-inch maximum. Although a diesel engine has not been used at Indianapolis since 1952, the rules still permit them with a limitation of 335.61 cubic inches.

Ticket order forms, showing the price and location of all reserved seats still available for the race, may be obtained by writing the Indianapolis Motor Speedway at Speedway, Ind.

IN ITS ANNUAL MEETING to discuss plans for the new season, the United States Auto Club (USAC) came up with some interesting recommendations for stock car racing. Some of the changes recommended were: restricting changes in appearance of the automobiles for safety reasons only; permitting only engines designed by factory specifications for the particular year and model; making shoulder harnesses mandatory; and *not* permitting pit stops during a yellow caution period. The latter seems a bit far-fetched since it would be practically impossible to enforce with fairness to all competitors.

In a concentrated effort toward more rigid safety precautions, the USAC Board has provided an accident investigation committee which will conduct a thorough investigation of all accidents resulting in injury to drivers or others or in major damage to cars. They will attempt to determine the cause, issue a preliminary report and catalog the information for use in preventing future similar accidents.

Some of the new safety rules adopted

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at the meeting included the mandatory installation of rear bumpers on all championship or Indianapolis-type cars; covering fuel tanks with fiberglass on the front, bottom and around all mounting areas; and the use of a three-inch nylon seat belt meeting with FAA specifications, with a quick-opening clasp.

THE CAR in which Britain's Don Campbell intends to have a crack at breaking John Cobb's record is being built in hush-hush conditions at a secret hideout. "We don't want to go off at half-cock," one of the Campbell team told us. "We want the car built and at least looking right before we start talking about what it is like and what we hope it will do."

Campbell's car—to be known as the Proteus-Campbell Bluebird—has been designed by Ken and Lou Norris, the brothers who also designed his record-breaking speedboat. Construction began last November and Campbell confidently expects the car to be finished by the end of May.

While secrecy surrounds the exact stage construction has reached, the following are the known specifications of the car:

Overall length 30 ft.; width 8 ft.; height 4 ft. 9 ins.; wheelbase 13 ft. 6 ins.; track 5 ft. 6 ins.; weight 4 tons; four-wheel drive; fully independent suspension. Power unit—single Bristol Proteus 705 gas turbine developing 4100 bhp. Tires—Dunlop interwoven-web 4-ply, 52-in. diameter x 8 1/4-in. section. Brakes—disc, air and parachute to dissipate 75 million lbs.-ft. energy. Fuel—B.P. Avtur, 25 gals. capacity.

The Dunlop Co. are still experimenting and testing tires they are developing especially for Campbell's record attempt. Experiments have been concentrated upon producing a treadless tire with a rubber coating less than 1/50th of an inch thick.

The car will have no gearbox, as such. Instead, it will be fitted with an automatic system for acceleration and deceleration.

When the car is completed—at the end of May or beginning of June—it will have a test run on the airfield runway at Filton, near Bristol, England.

"Of course the runway isn't long enough for the car to go anywhere near its top speed," Campbell's manager told us, "but we shall see that all the working parts do work."

As plans stand at present, the new Bluebird will be shipped to the States in July ready for its test run at Bonneville in August or perhaps September, according to weather conditions at the time.



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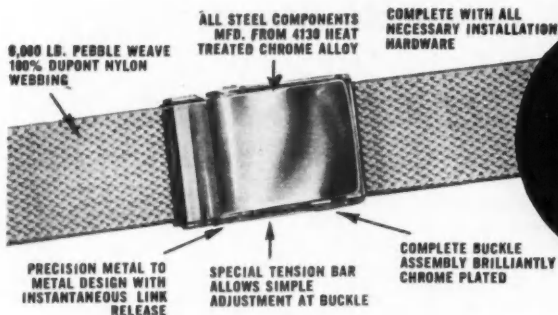
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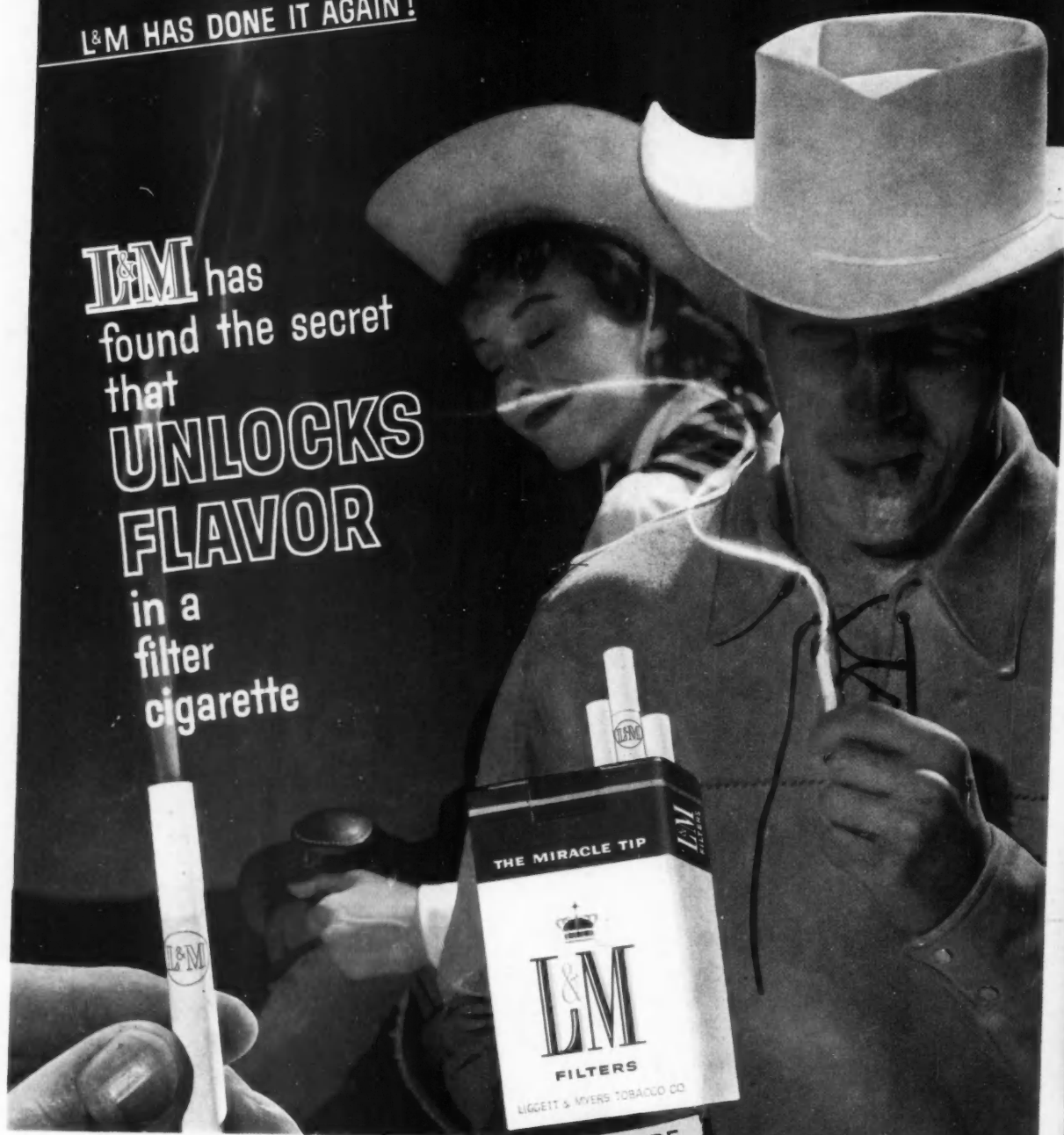


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